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BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

Foundry/Corporate Office

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September 26, 2018

Director of Compliance & Enforcement
Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, CA 94105
Attn: Title V Reports

Director of the Air Division
USEPA, Region 9
75 Hawthorne Street
San Francisco, CA 94105
Attention: Air-3

Re: Combined Semi-Annual Compliance Report

1. Title V Semi-Annual Report and Monitoring Verification Report
 2. MACT EEEEE Semi-Annual Report
 3. MACT MMMM Semi-Annual Report
- AB&I Foundry, Oakland, CA
BAAQMD Facility #A0062

AB&I Foundry (Facility #A0062) located in Oakland, California submits the following Semi-Annual Compliance Report for the March 1, 2018 through August 31, 2018 reporting period. This submittal combines three semi-annual reports and includes information as required by the facility's Title V Permit, 40 Code of Federal Regulation (CFR) Part 63, Subpart EEEEE, National Emission Standard for Hazardous Air Pollutants (NESHAP) for Iron and Steel Foundries, and 40 CFR Part 63, Subpart MMMM, NESHAP for Surface Coating of Miscellaneous Metal Parts and Products.

If you have any questions, please do not hesitate to contact me at (510) 633-5220 or andy.berg@abifoundry.com.

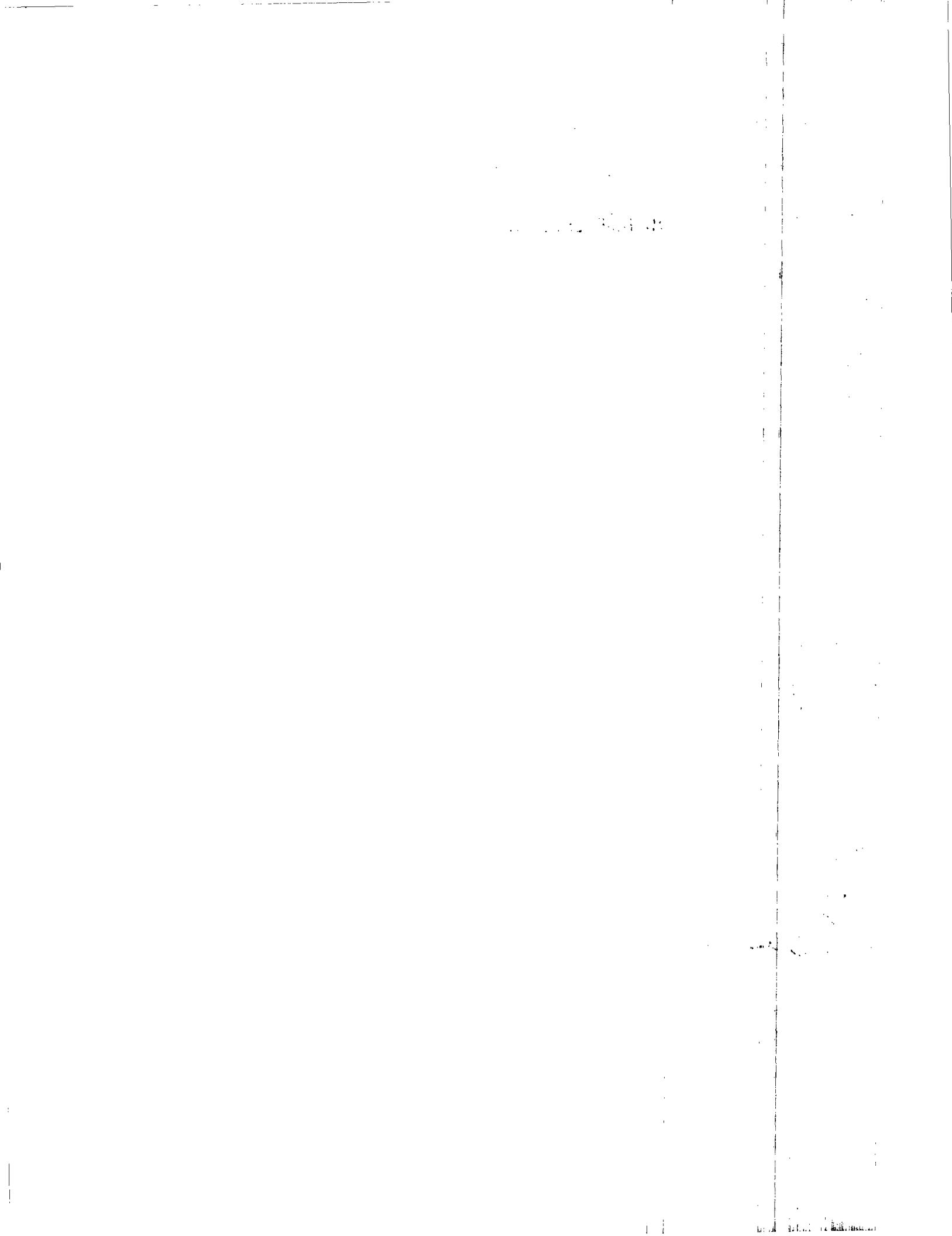
Sincerely,

A handwritten signature in black ink, appearing to read "Andy Berg".

Andy Berg
Environmental Manager
AB&I Foundry

Enclosures

cc: Michael Lowe, General Manager (AB&I)



AB&I Foundry



Semi-Annual Compliance Report

March 1, 2018 – August 31, 2018

Oakland, California

September 2018

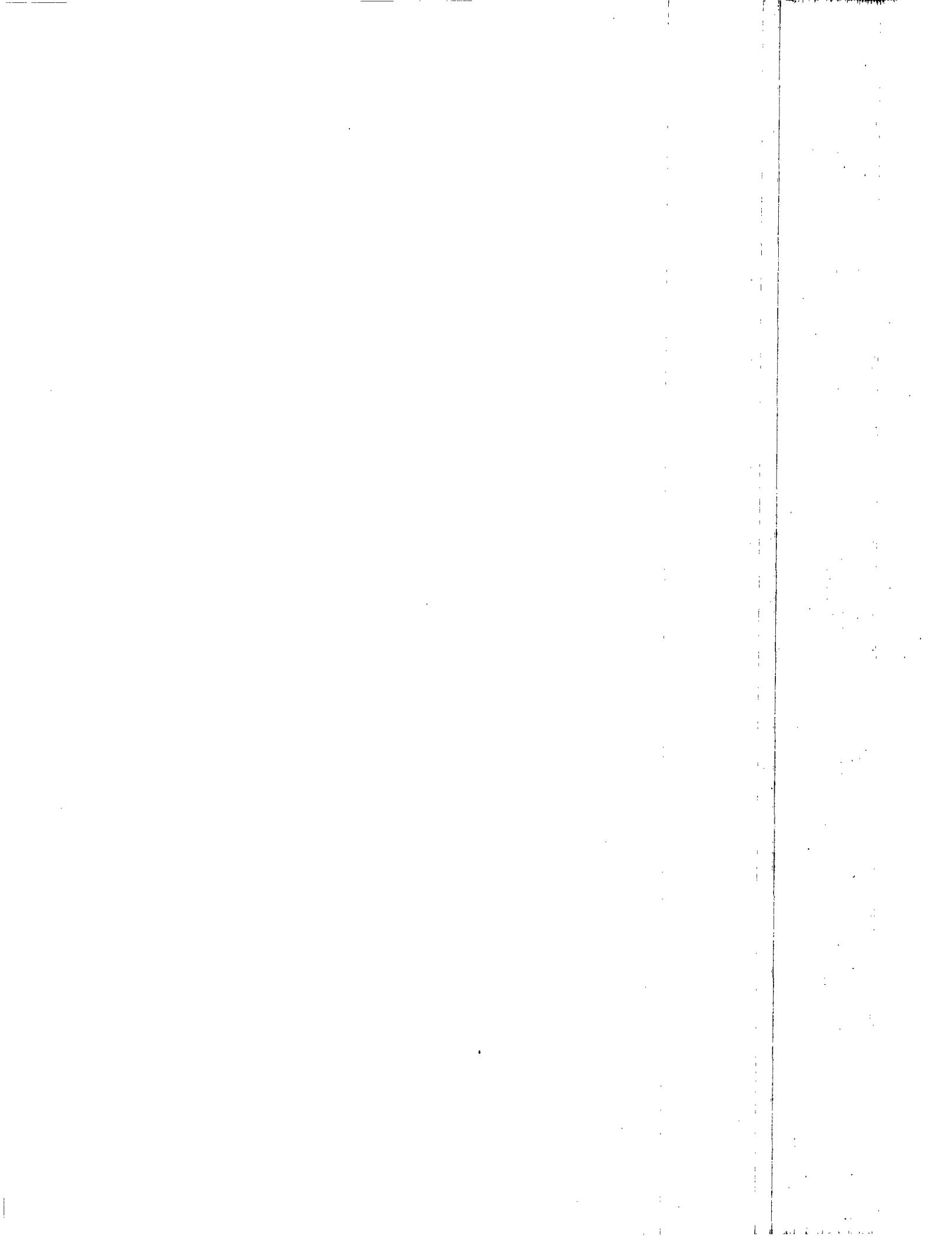
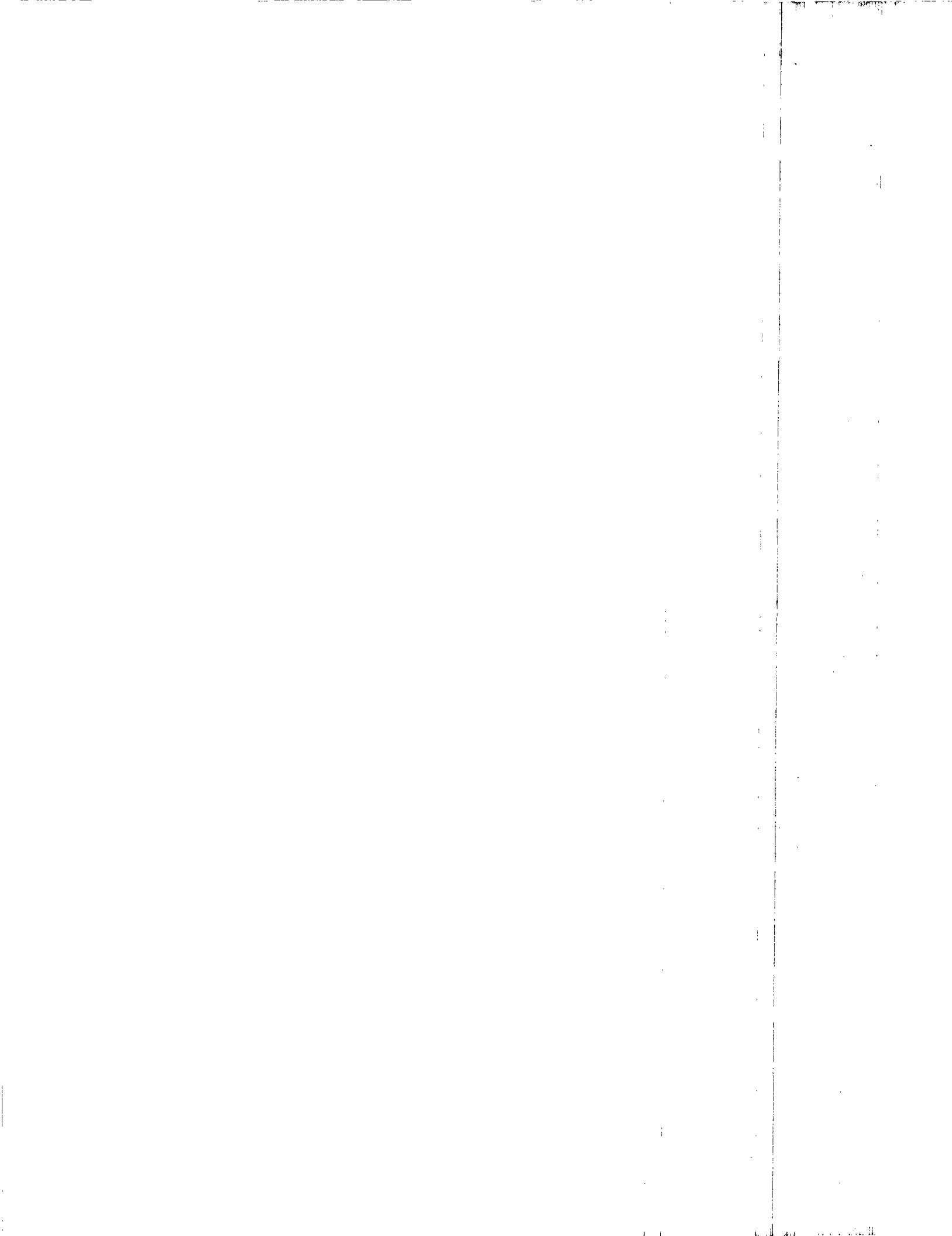


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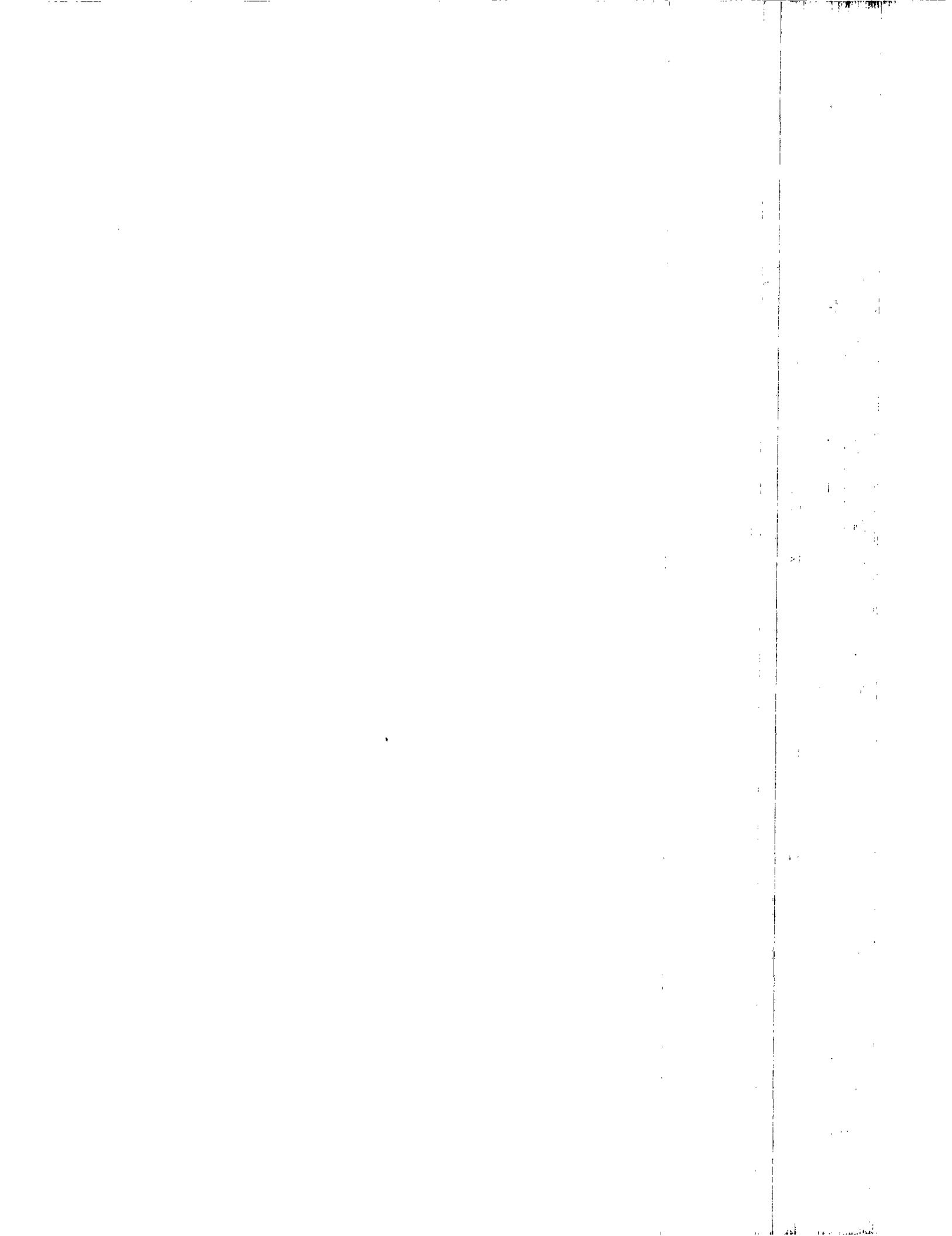
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SECTION 1 INTRODUCTION

AB&I Foundry (AB&I) operates an iron foundry in Oakland, California for the production of cast iron in the manufacturing of drain-waste-vent (DWV) pipe and fittings. AB&I (Facility #A0062) is preparing this Semi-Annual Compliance Report (SAR) for the Bay Area Air Quality Management District (BAAQMD) and the United States Environmental Protection Agency (USEPA), Region 9 in accordance with AB&I's Title V Permit and 40 Code of Federal Regulation (CFR) Part 70. Standard Condition I.F. requires the facility to submit reports of all required monitoring to the District at least once every six months. The reporting period for this Semi-Annual Report is March 1, 2018 through August 31, 2018.

AB&I is subject to 40 CFR, Part 63, National Emission Standards of Hazardous Air Pollutants (NESHAP), Subpart EEEEE, which regulates emissions of volatile organic hazardous air pollutants (VOHAP) and particulate matter (PM) or total metal hazardous air pollutants (HAP) from foundry operations. Subpart EEEEE requires the facility to prepare a semi-annual compliance report in accordance with §63.7751.

AB&I is also subject to 40 CFR Part 63, NESHAP, Subpart MMMMM for Surface Coating of Miscellaneous Metal Parts and Products. Subpart MMMMM requires the facility to prepare a semi-annual compliance report in accordance with §63.3920.

Section 2 of this document includes the Title V SAR, Section 3 includes the required information for the Subpart EEEEE SAR, and Section 4 details the requirements for the Subpart MMMMM SAR.

SECTION 2

TITLE V SEMI-ANNUAL REPORT

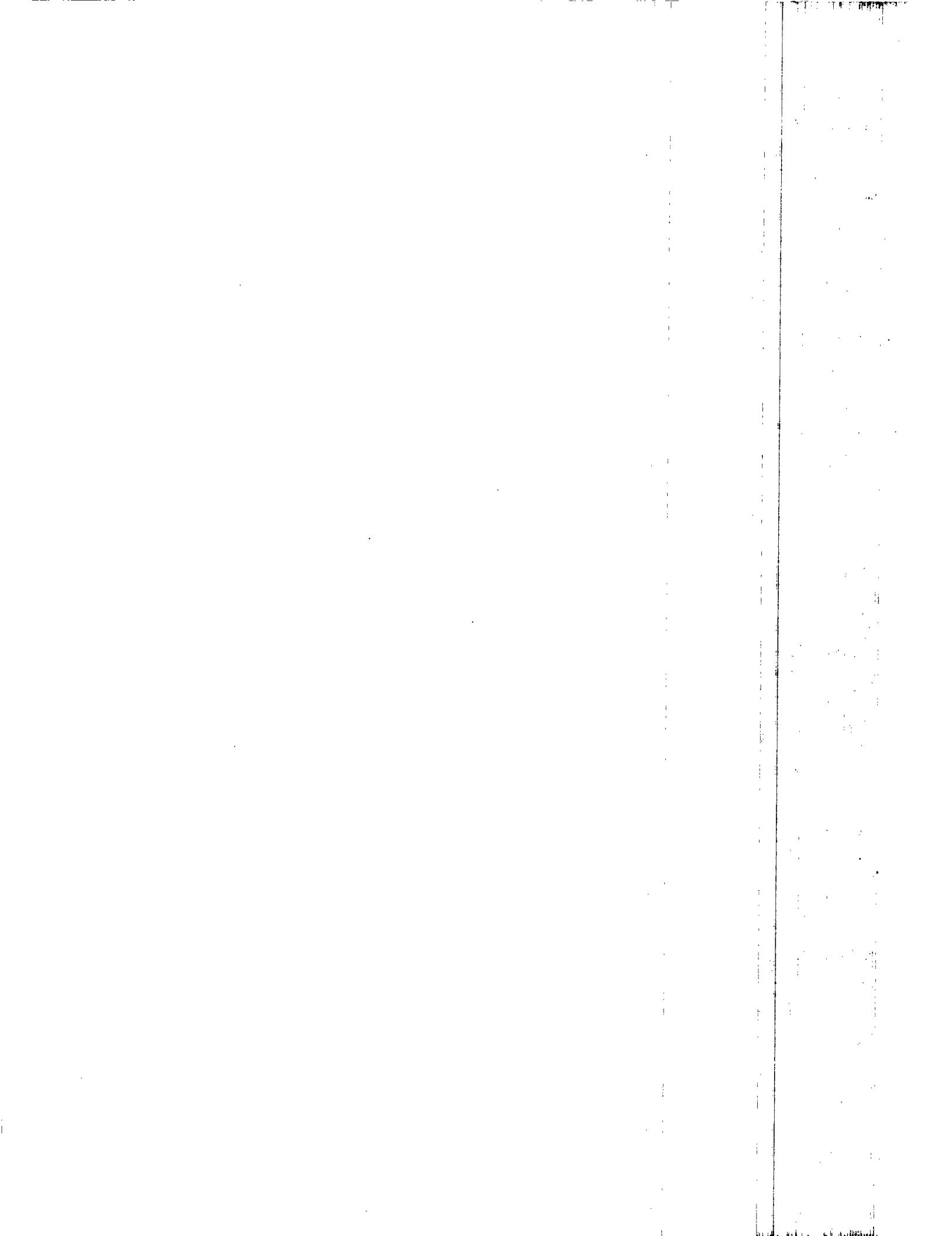
Section I.F. of the Title V Permit requires the facility to submit semi-annual reports. All instances of non-compliance shall be clearly identified in these reports. Any deviations that occurred during the March 1, 2018 through August 31, 2018 reporting period is included in the table below.

2.1 Title V Monitoring Report Deviations

Source	Permit ID	Description	Deviation Period		Cause of Deviation	Corrective Actions Taken To Remedy or Mitigate Deviation Situation
			Start	End		
			Date/Time	Date/Time		
S-25 Holding Furnace and associated charging launder	BAAQMD Condition 9668, Part 1	The owner/operator shall ensure S-25 Holding Furnace and its associated charging launder are abated by A-25 Fume Baghouse at all times of operation of S-25.	4/18/18 04:10:00 AM	4/18/18 04:10:30 AM	An operator failing to turn on the Fume Baghouse (A-25) prior to tapping out the cupola to allow iron to flow through the charging launder towards the holding furnace	Corrective actions included an evaluation of start-up procedures and adding additional programming to the PLC to interlock the cupola blast blower with the abatement device to disallow startup of the cupola without A-25 Fume Baghouse being operational. AB&I submitted a 10-Day Non-Compliance and 30-Day Corrective Action report to the BAAQMD on April 26, 2018.
S-1 Cupola	40 CFR 63.7743(b)	Operating limit for capture system	06/04/2018 08:41:00 AM	06/04/2018 12:30:00 PM	Draft pressure 3-hour average dropped below 0.2 inches of water column vacuum for approximately 3.82 hours due to worn duct work	Replace VFD, repair of worn duct work and calibration and tuning of control components. New preventative maintenance procedures to inspect problem areas more frequently. AB&I submitted a 10-Day Non-Compliance report and 30-Day Corrective Action report to the BAAQMD on June 13, 2018.

Source	Permit ID	Description	Deviation Period		Cause of Deviation	Corrective Actions Taken To Remedy or Mitigate Deviation Situation
			Start	End		
			Date/Time	Date/Time		
A-19 Cupola Baghouse	BAAQMD Condition 25039, Part 1.b.ii	A pressure drop across a baghouse cell in inches of water column that is less than 2 inches is defined as an excursion	06/05/18 11:22:00AM	06/05/18 (continued intermittently throughout the day)	Pressure Drop across the baghouse went below 2.0 inches of water column vacuum	The pressure line was found to be partially plugged, the magnehelic gauge lines were blown out to clear any debris. The issue seemed to be resolved however there were a few spikes below 2 inches of water later in the same day. A method 9 evaluation was performed within 48 hours per the permit condition and no emissions were observed. AB&I submitted a 10-Day Non-Compliance and 30-Day Corrective Action report to the BAAQMD on June 15, 2018
A-19 Cupola Baghouse	BAAQMD Condition 25039, Part 1.b.ii	A pressure drop across a baghouse cell in inches of water column that is less than 2 inches is defined as an excursion	06/08/18 10:50:00AM	06/08/18 (continued intermittently throughout the day)	Pressure Drop across the baghouse went below 2.0 inches of water column vacuum	The low pressure drop returned on 6/8/18 and we continued to troubleshoot the system. There was found to be a hole in an expansion joint. The joint was repaired, and the pressure returned to normal. A method 9 evaluation was performed within 48 hours per the permit condition and no emissions were observed. AB&I submitted a 10-Day Non-Compliance and 30-Day Corrective Action report to the BAAQMD on June 15, 2018

The Semi-Annual Monitoring Verification Report is included as Attachment 2-1.

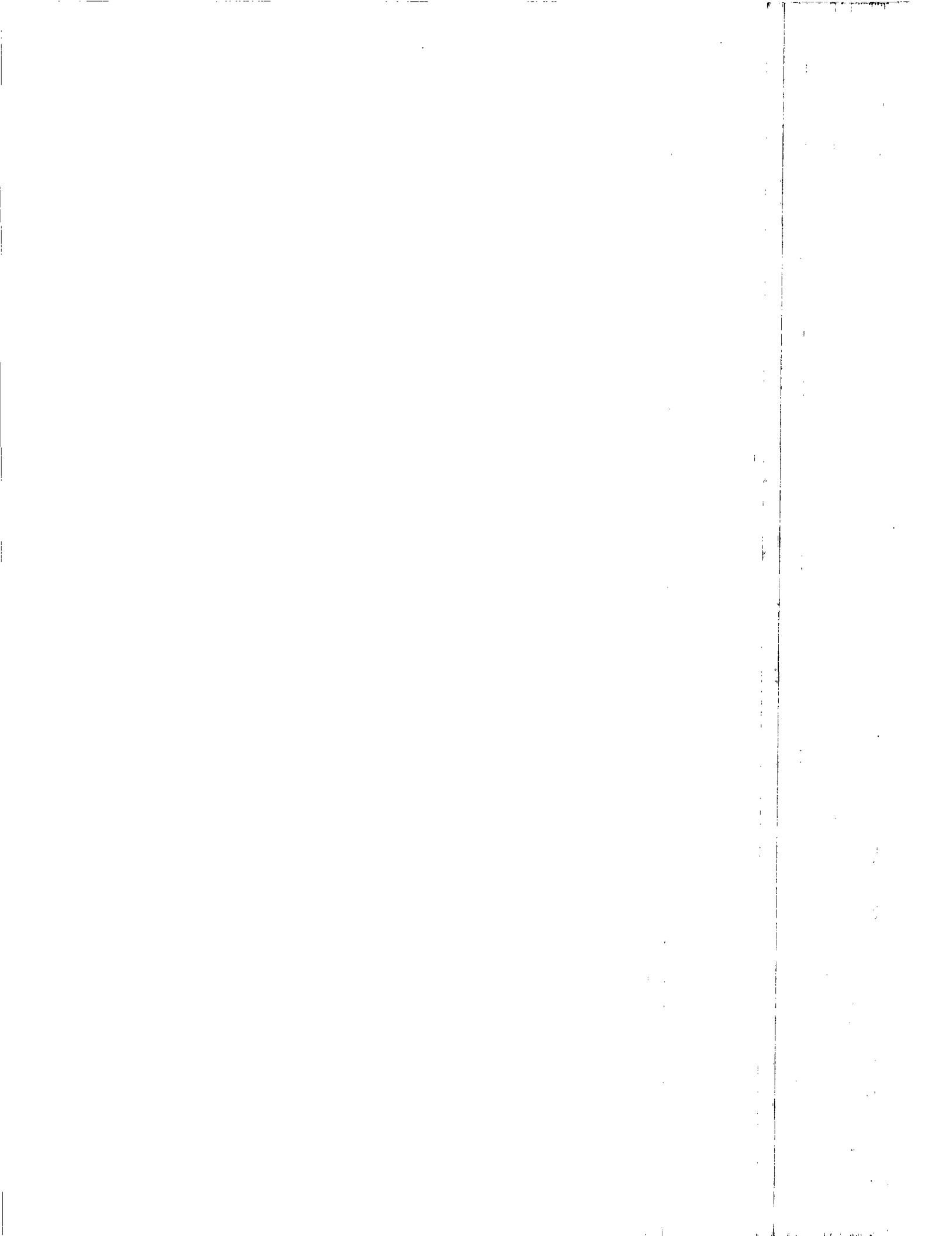


Attachment 2-1
Semi-Annual Monitoring Verification Report

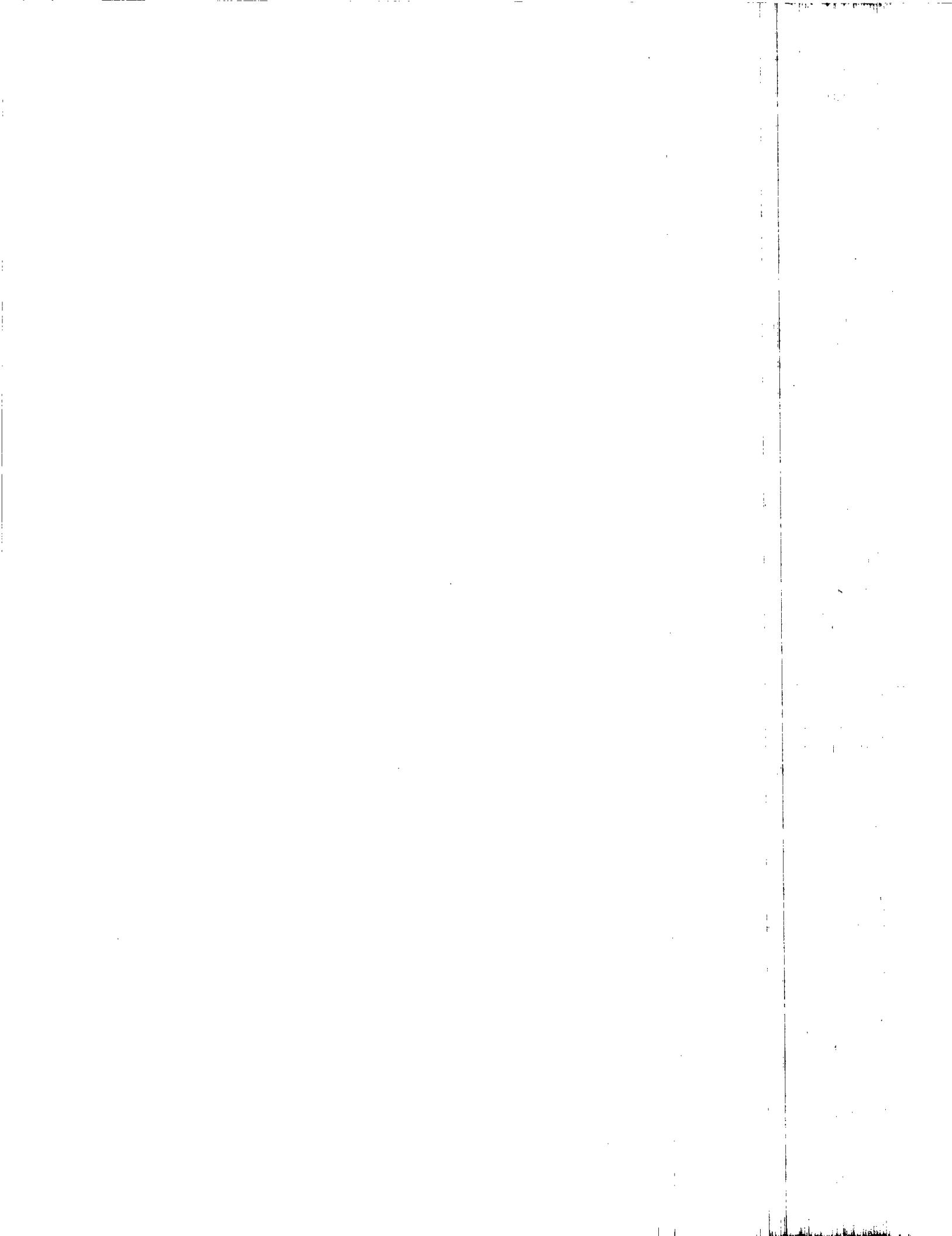
Semi-Annual Monitoring Verification Report
 Reporting Period: March 1, 2018 through August 31, 2018
 AB&I Foundry

Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
Facility (Except S-51)

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
NESHAP 40 CFR Part 63, Subpart EEEEE	National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries (02/07/2008)					
63.7681	Am I subject to this subpart?					Y
63.7682	What parts of this foundry does this subpart cover?					Y
63.7683(a)	Existing source compliance deadline (April 23, 2007)					Y
63.7683(b)	Existing source compliance deadline for work practice standards (April 22, 2005)					Y
63.7683(f)	Notification and Schedule requirements (63.7750)					Y
63.7700	What work practice standards must I meet?					Y
63.7710(a)	Operate and maintain foundry consistent with good air pollution control practices					Y
63.7720(a)	General compliance requirements, exemption startup, shutdown, malfunction					Y
63.7720(c)	Develop a written startup, shutdown, and malfunction plan					Y
63.7730(b)	Initial demonstration of compliance with work practice standards and operation and maintenance requirements within 30 days of April 22, 2005					Y
63.7731(b)	Subsequent performance tests for fugitive emissions from building or structures	Opacity level \leq 20% (6 minute average) 63.7690(a)(7)	63.7731(b)	Visible Emissions (M9) P/6 months	Once every six months	Y
63.7735	Initial compliance demonstration with work practice standards					Y
63.7736	Initial compliance demonstration with operation and maintenance requirements					Y
63.7743(a)(7)	Continuous compliance demonstration for fugitive emissions from building or structures	Opacity level \leq 20% (6 minute average) 63.7690(a)(7)	63.7731(b)	Visible Emissions (M9) P/6 months	Once every six months	Y
63.7745(a)(1)	Continuous compliance demonstration – operation and maintenance requirements			Inspections, corrective action, record keeping	Once every six months	Y
				P/M		

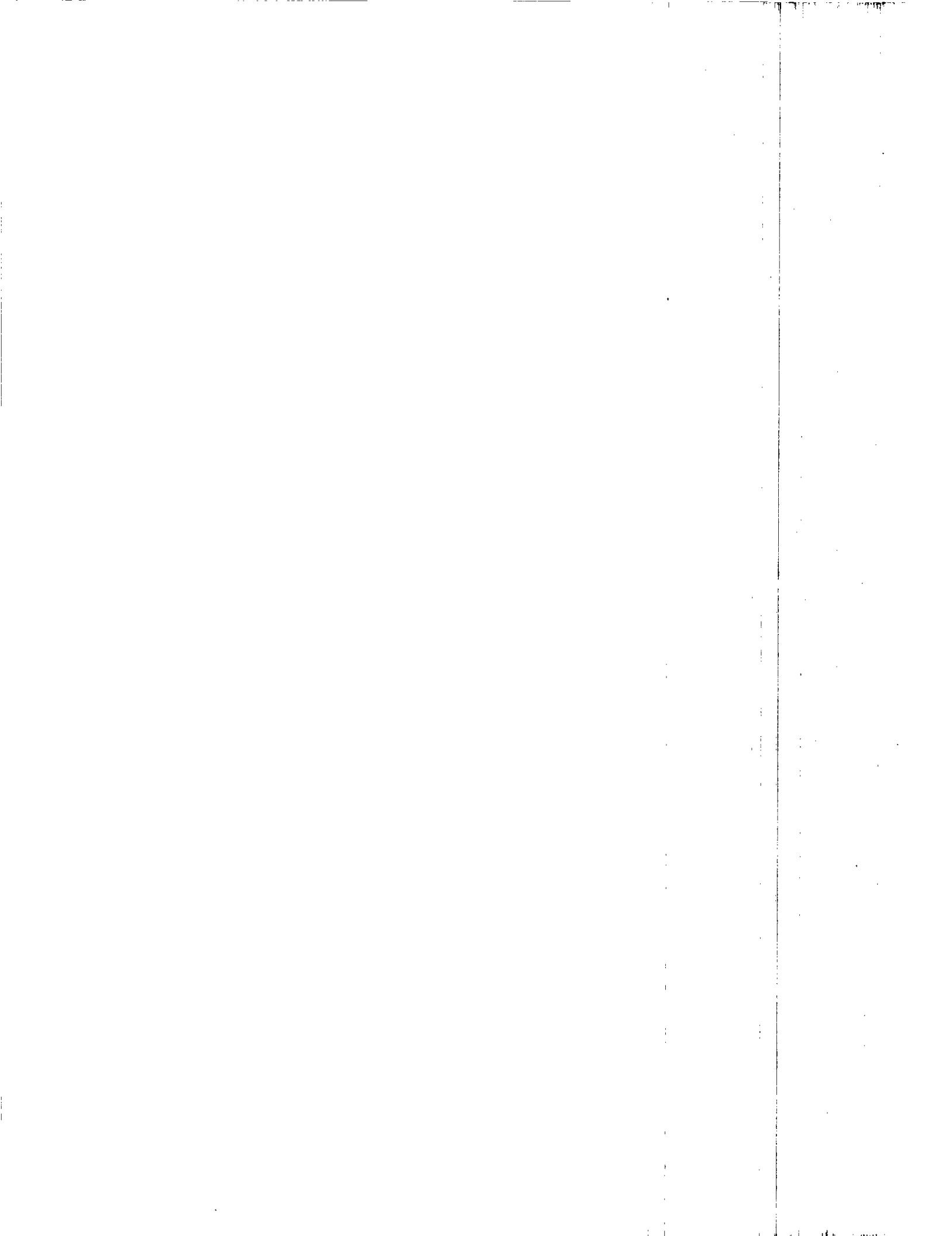


Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements Facility (Except S-51)						
Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
63.7745(a)(1)	Continuous compliance demonstration – operation and maintenance requirements			Inspections, corrective action, record keeping P/M	Once every six months	Y
63.7745(a)(1)	Continuous compliance demonstration – operation and maintenance requirements			Inspections, corrective action, record keeping P/M	Once every six months	Y
63.7746(b)	Startup, shutdown, malfunction deviations are not violations					Y
63.7750	Notification requirements					Y
63.7751	Reporting requirements					Y
63.7752	Recordkeeping requirements					Y
63.7753	Recordkeeping requirements (5 years)					Y
63.7760	Table 1: Applicability of General Provisions (Subpart A)					Y
63.7761	Delegation					Y
63.7765	Definitions					Y



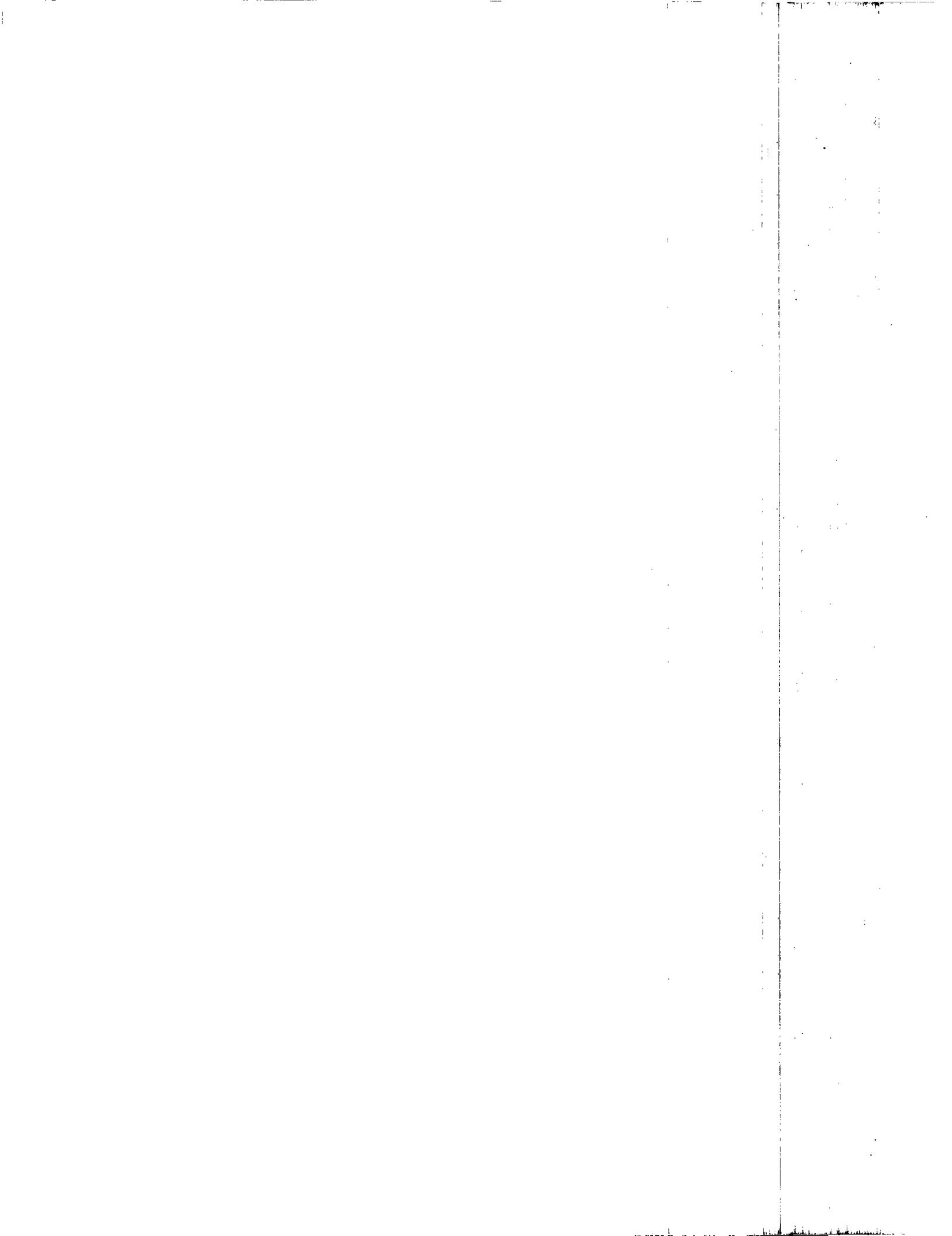
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-1 – Cupola abated by A-20, A-22 Afterburner and A-19 Baghouse

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
BAAQMD Regulation 6, Rule 1 (12/05/07)	Particulate Matter					
6-1-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr	63.7740(b); CAM Condition #25039, Part 15	Bag leak detector C	Once every six months	Y
			CAM Condition #25039, Part 21	Pressure drop monitoring P/D	Once every six months	Y
			BAAQMD Condition #9351, Part 11; CAM Condition #25039, Part 27	Source Test P/Every 5 years	Every 5 years	Y
6-1-305	Visible Particles	FILTERABLE PARTICULATE 0.15 gr/dscf	63.7740(b); CAM Condition #25039, Part 15	Bag leak detector C	Once every six months	Y
6-1-310	Particulate Weight Limitation		CAM Condition #25039, Part 21	Pressure drop monitoring P/D	Once every six months	Y
			63.7731(a); 63.7743(a)(12); BAAQMD Condition #9351, Part 11; CAM Condition #25039, Part 27	Source Test P/Every 5 years	Every 5 years	Y
			FILTERABLE PARTICULATE 4.10P ^{0.87} lb/hr where P is process weight, ton/hr	Bag leak detector C	Once every six months	Y
6-1-311	General Operations		CAM Condition #25039, Part 21	Pressure drop monitoring P/D	Once every six months	Y



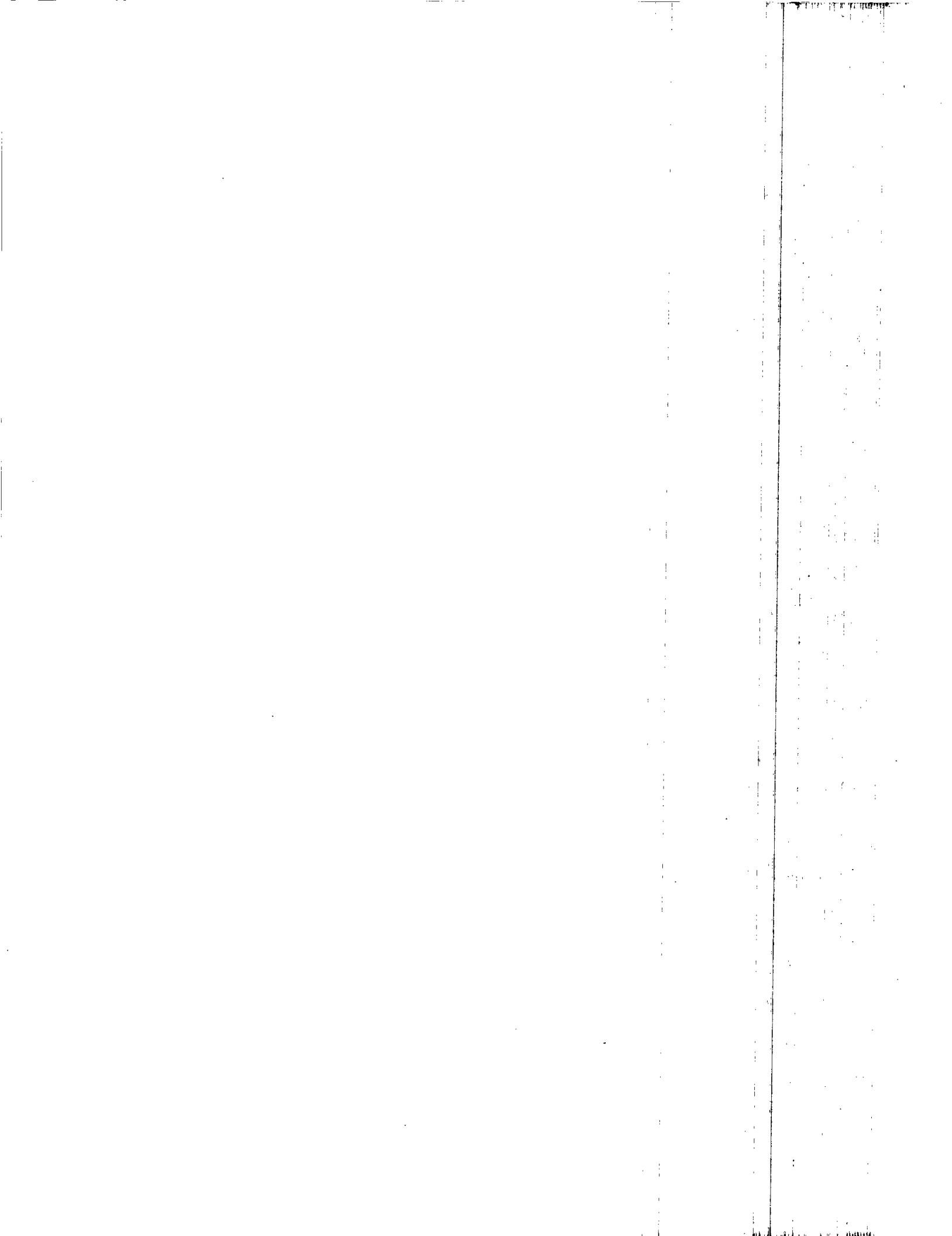
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-1 – Cupola abated by A-20, A-22 Afterburner and A-19 Baghouse

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
			63.7731(a); 63.7743(a)(12); BAAQMD Condition #9351, Part 11; CAM Condition #25039, Part 27	Source Test P/Every 5 years	Every 5 years	Y
6-1-401	Appearance of Emissions					Y
6-1-601	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions					Y
SIP Regulation 6	Particulate Matter and Visible Emissions (09/04/98)					
6-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr	63.7740(b); CAM Condition #25039, Part 15	Bag leak detector C	Once every six months	Y
			CAM Condition #25039, Part 21	Pressure drop monitoring P/D	Once every six months	Y
			BAAQMD Condition #9351, Part 11; CAM Condition #25039, Part 27	Source Test P/Every 5 years	Every 5 years	Y
6-305	Visible Particles	FILTERABLE PARTICULATE 0.15 gr/dsec	63.7740(b); CAM Condition #25039, Part 15	Bag leak detector C	Once every six months	Y
6-310	Particulate Weight Limitation		CAM Condition #25039, Part 21	Pressure drop monitoring P/D	Once every six months	Y
			63.7731(a); 63.7743(a)(12); BAAQMD Condition #9351, Part 11; CAM Condition #25039, Part 27	Source Test P/Every 5 years	Every 5 years	Y



Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-1 – Cupola abated by A-20, A-22 Afterburner and A-19 Baghouse

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
6-311	General Operations	FILTERABLE PARTICULATE 4.10PO.67 lb/hr. where P is process weight, ton/hr	63.7740(b); CAM Condition #25039, Part 15	Bag leak detector C	Once every six months	Y
			CAM Condition #25039, Part 21	Pressure drop monitoring P/D	Once every six months	Y
			63.7731(a); 63.7743(a)(12); BAAQMD Condition #9351, Part 11; CAM Condition #25039, Part 27	Source Test P/Every 5 years	Every 5 years	Y
6-401	Appearance of Emissions					Y
6-601	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions					Y
BAAQMD Regulation 8, Rule 2	Organic Compounds: Miscellaneous Operations (7/20/2005)					
8-2-301	Miscellaneous Operations	VOC 15 lb/day and 300ppmd	BAAQMD Condition #9351, Part 11	Source Test P/Every 5 years	Every 5 years	Y
8-2-601	Determination of Compliance					Y
BAAQMD Regulation 9, Rule 1	Inorganic Gaseous Pollutants: Sulfur Dioxide (3/15/1995)					
9-1-304	Fuel Burning (Liquid and Solid Fuels)	Sulfur content of solid fuel limited to ensure SO ₂ ≤ 300 ppmd	BAAQMD Condition #9351, Part 4	Fuel certification; Source test if >1.0% S P/E	Once every six months	Y
9-1-601	Sampling and Analysis of Gas Streams		BAAQMD Condition #9351, Part 11	Source Test P/Every 5 years	Every 5 years	Y
9-1-602	Sulfur Content of Fuels					Y



Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-1 – Cupola abated by A-20, A-22 Afterburner and A-19 Baghouse

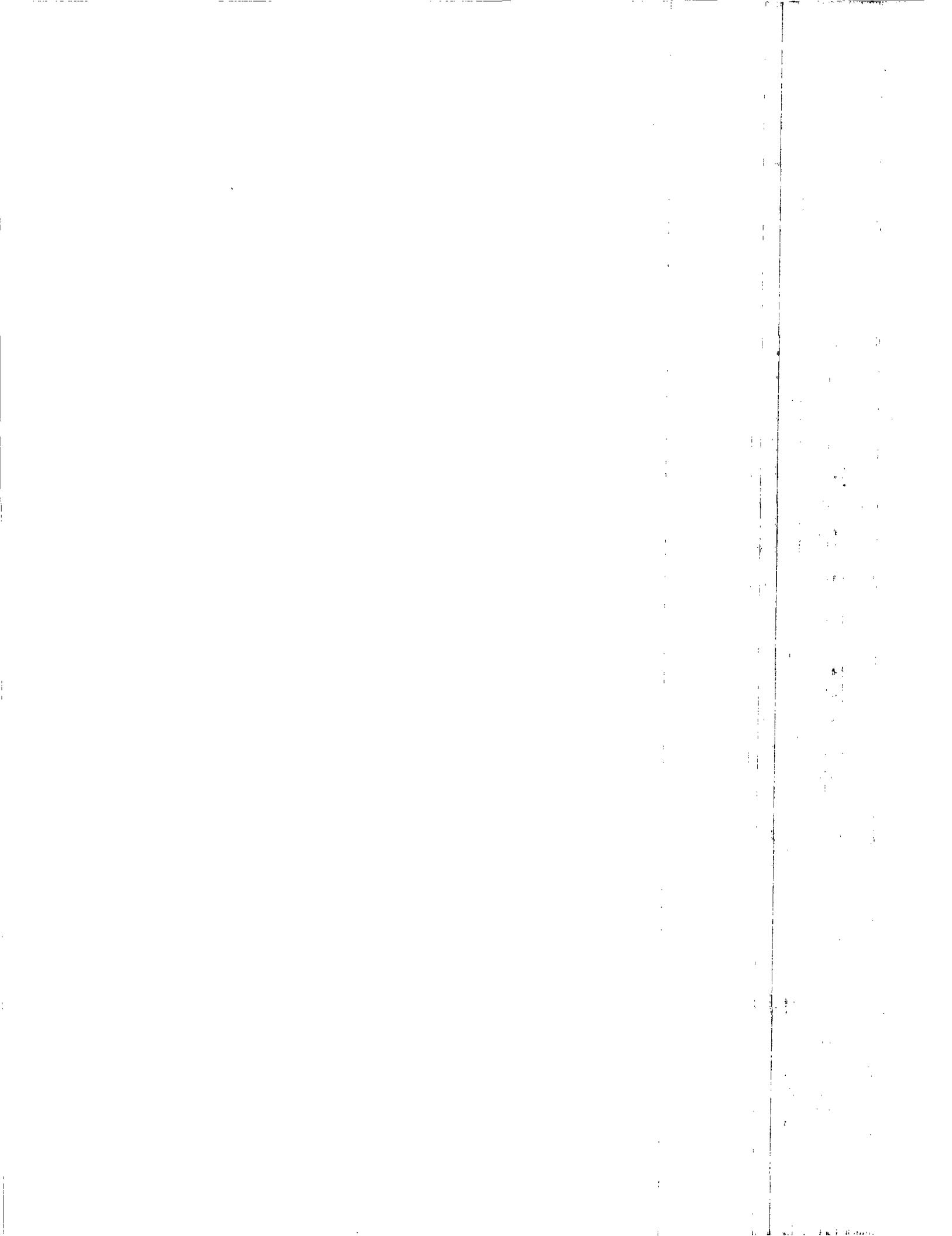
Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
9-1-603	Averaging Times					Y
BAAQMD Regulation 11, Rule 1	Hazardous Pollutants/ Lead (3/17/82)					
11-1-301	Daily Limitation	LEAD 15 lb/day	BAAQMD Condition #9351, Part 11	Source Test P/Every 5 years	Every 5 years	Y
11-1-302	Ground Level Concentration Limit Without Background	LEAD $\leq 1.0 \text{ ug/m}^3$		N		Y
11-1-604	Determination of Daily Emission Limits					Y
NESHAP 40 CFR Part 63, Subpart EEEE	National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries (02/07/2008)					
63.7681	Am I subject to this subpart?					Y
63.7682	What parts of this foundry does this subpart cover?					Y
63.7683(a)	Existing source compliance deadline (April 23, 2007)					Y
63.7690(a)(2)	Emissions Limitations for cupola at existing iron and steel foundry	PM 0.006 gr/dscf; or 0.10 lb PM/ton metal charged; or 0.0005 gr/dscf of total metal HAP; or 0.008 lb of total metal HAP/ton metal charged	63.7740(b)	C	Once every six months	Y
			63.7740(b) P/variables			Y
			63.7731(a); 63.7743(a)(12)	Source Test P/Every 5 years		Y
63.7690(a)(8)	Emissions Limitations for cupola at existing iron and steel foundry	$\leq 20 \text{ ppmv @ 10% O}_2$	63.7740(a) 63.7731(a); 63.7743(a)(12)	Temperature monitor C	Once every six months	Y
63.7690(b)(1)	Install, operate, and maintain a capture and collection system for VOI-HAP			Source Test P/Every 5 years	Every 5 years	Y

Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-1 – Cupola abated by A-20, A-22 Afterburner and A-19 Baghouse

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring Frequency	Reporting	Compliance (Y/N)
63.7690(b)(3)	Temperature limit for combustion device applied to emissions from a cupola	Afterburner combustion zone temperature \geq 1300°F (15-min average, not including 15 min transition from off-blast to on-blast)	63.7740(a)	Temperature monitor C	Once every six months	Y
63.7710(a)	What work practice standards must I meet?					Y
63.7710(b)	Operate and maintain foundry consistent with good air pollution control practices					Y
63.7710(b)(1)	Operation and maintenance plan for each capture and collection system and control device					Y
63.7710(b)(2)	Monthly inspections of abatement equipment					Y
63.7710(b)(3)	Determination of operating limit parameters for each capture system for VOHAP					Y
63.7710(b)(4)	Preventative maintenance plan for each control device					Y
63.7710(b)(5)	Monitoring plan for each bag leak detection system					Y
63.7720(a)	Corrective action plan for each baghouse		Initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours	63.7745(a)(4)	Record keeping P/E	Once every six months
63.7720(c)	General compliance requirements, exemption startup, shutdown, malfunction Develop a written startup, shutdown, and malfunction plan					Y
63.7730(a)	Initial performance test within 180 days of April 23, 2007	PM or total metal HAP: 63.7690(a)(2); and VOHAP: 63.7690(a)(8)	40 CFR Part 63.7(a)(2)	Initial performance test P/E	Initial	Y
63.7730(b)	Initial demonstration of compliance with work practice standards and operation and maintenance requirements within 30 days of April 22, 2005					Y

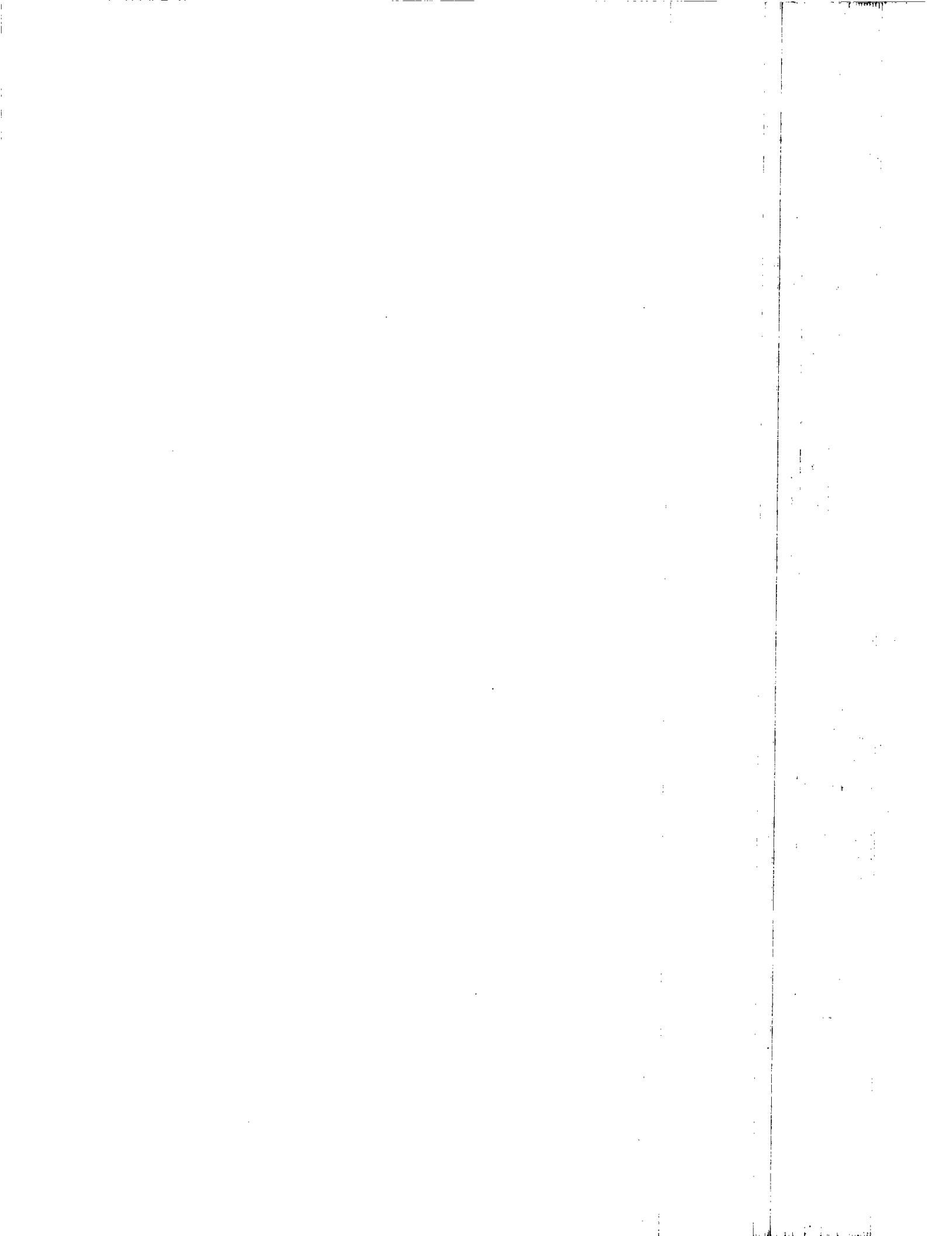
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Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring Frequency	Reporting	Compliance (Y / N)
63.7731(a)	Subsequent performance tests for PM or total metal HAP, VOHAP	PM or total metal HAP: 63.7690(a)(2); and VOHAP: 63.7690(a)(8)	63.7731(a)	Source Test P/Every 5 years	Every 5 years	Y
63.7731(b)	Subsequent performance tests for fugitive emissions from building or structures	Opacity level \leq 20% (6 minute average) 63.7690(a)(7)	63.7731(b)	Visible Emissions (M9) P/6 months	Once every six months	Y
63.7732	Test Methods					Y
63.7733	Procedures for establishing operating limits					Y
63.7734(a)(2)	Initial compliance demonstration for existing cupola					Y
63.7735	Initial compliance demonstration with work practice standards					Y
63.7736	Initial compliance demonstration with operation and maintenance requirements					Y
63.7740(a)	Monitoring requirements – for 63.7690(b)(1) VOHAP limit: install, operate and maintain a CPMS					Y
63.7740(b)	Monitoring requirements –for baghouse, use bag leak detection system					Y
63.7740(c)(1)	Monitoring requirements – Baghouse inspection requirements	Normal operating range	63.7740(c)(1)	Pressure drop monitoring P/D	Once every six months	Y
63.7740(c)(2)	Monitoring requirements – Baghouse inspection requirements	Check dust removal from hoppers	63.7740(c)(2)	Visual inspection P/W	Once every six months	Y
63.7740(c)(3)	Monitoring requirements – Baghouse inspection requirements	Adequate compressed air supply for pulse-jet baghouses	63.7740(c)(3)	Inspection P/D	Once every six months	Y
63.7740(c)(4)	Monitoring requirements – Baghouse inspection requirements	Monitor cleaning cycles	63.7740(c)(4)	Inspection P/A	Once every six months	Y
63.7740(c)(5)	Monitoring requirements – Baghouse inspection requirements	Check bag cleaning mechanisms	63.7740(c)(5)	Visual inspection P/M	Once every six months	Y
63.7740(c)(7)	Monitoring requirements – Baghouse inspection requirements	Check physical integrity of baghouses interior	63.7740(c)(7)	Visual inspection P/Q	Once every six months	Y



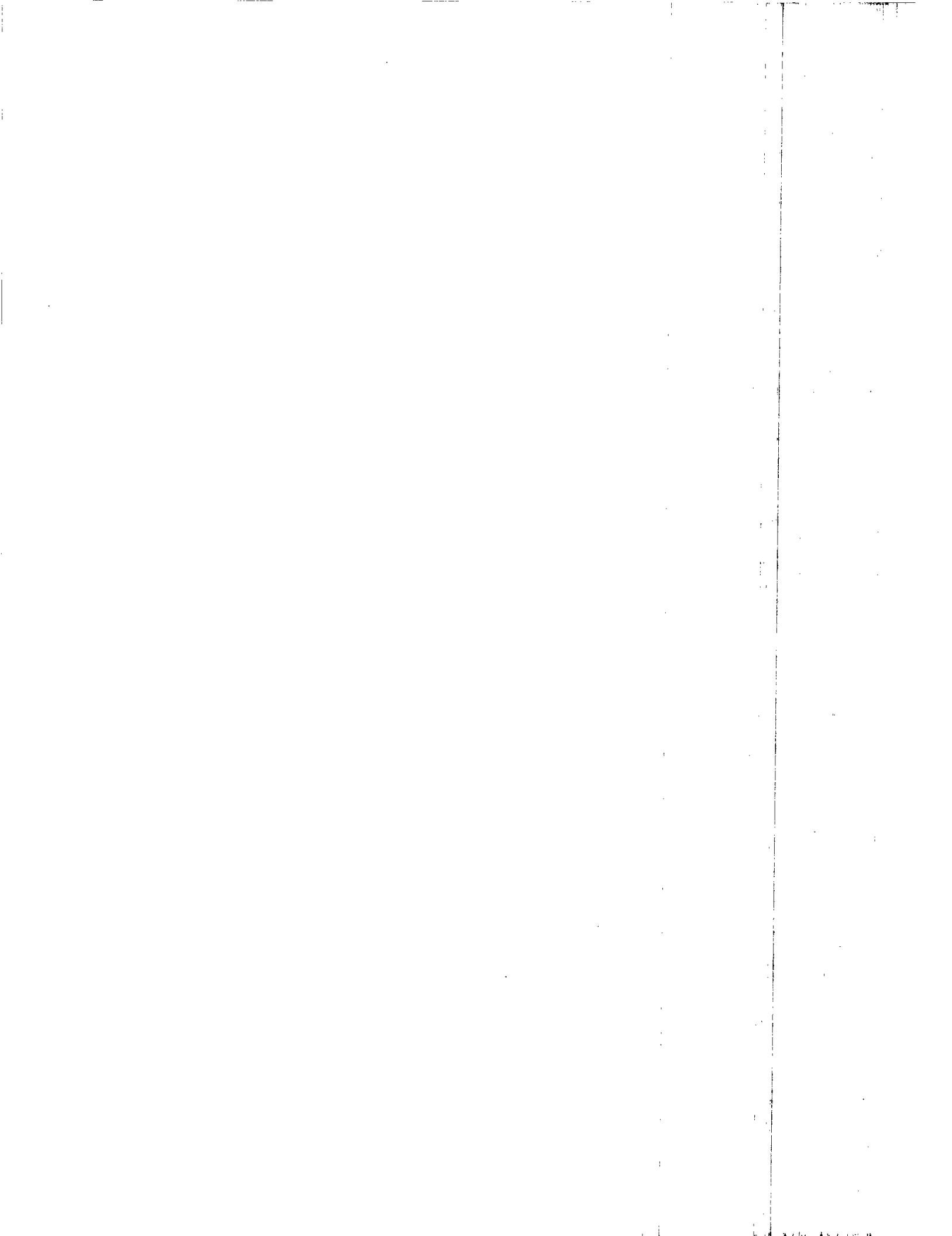
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-1 – Cupola abated by A-20, A-22 Afterburner and A-19 Baghouse

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
63.7740(c)(8)	Monitoring requirements – Baghouse inspection requirements	Inspect fans for wear, material buildup, corrosion	63.7740(c)(8)	Visual inspection P/Q	Once every six months	Y
63.7740(e)	Monitoring requirement - Combustion device	Monitor 15-minute average combustion zone temperature using a CPMS	63.7740(c)	Temperature monitor C	Once every six months	Y
63.7741(a)(2)	Install, operate, maintain each CPMS for each capture system – pressure measurement device		63.7741(a)(2)	Pressure drop monitor P/M	Once every six months	Y
63.7741(a)(3)	Record results of each inspection, calibration, validation check		63.7741(a)(3)	Record keeping P/E	Once every six months	Y
63.7741(b) (1-5)	Install, operate, maintain a bag leak detection system					Y
63.7741(d) (1,4,6,7,8)	Install, operate, maintain each CPMS to measure and record the combustion zone temperature for each combustion device		63.7741(d)(1,4,6,7,8)	Visual inspection P/M	Once every six months	Y
63.7741(f) (1,2,3)	CPMS requirements					Y
63.7742	Monitoring and collection of data to demonstrate continuous compliance (excluding malfunctions, associated repairs, required quality assurance or control activities)					Y
63.7743(a)(2)	Continuous compliance demonstration for existing cupola	Maintaining the average limits: PM 0.006 gr/dscf; or 0.10 lb PM/ton metal charged; or 0.0005 gr/dscf of total metal HAP, or 0.008 lb of total metal HAP/ton metal charged	63.7740(b)	Bag leak detector C P/varies	Once every six months	Y
63.7743(a)(7)	Continuous compliance demonstration for fugitive emissions from building or structures	Opacity level \leq 20% (6 minute average) 63.7690(a)(7)	63.7743(a)(12)	Baghouse inspection Source Test P/Every 5 years Visible Emissions M9 P/6 months	Y	Y



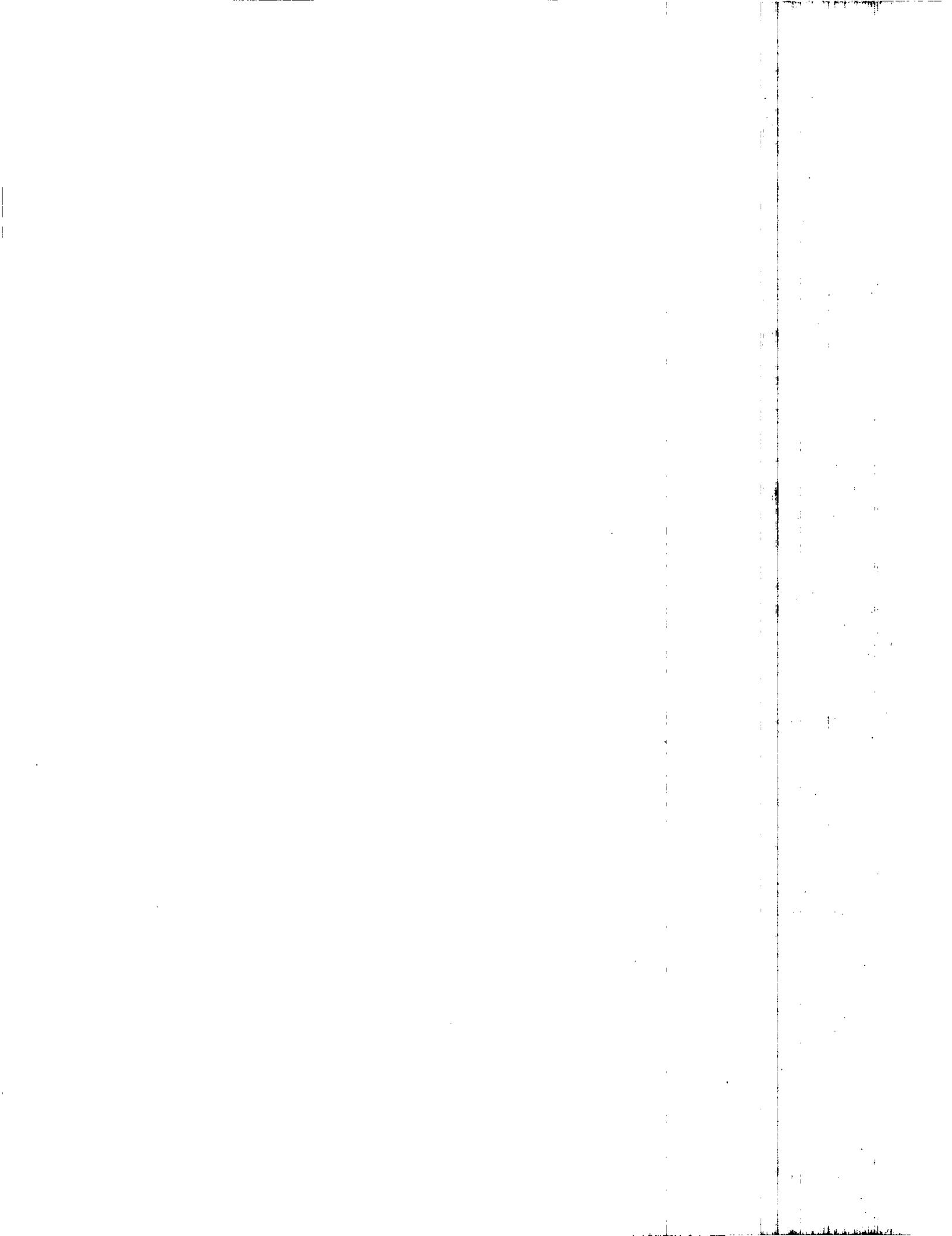
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-1 – Cupola abated by A-20, A-22 Afterburner and A-19 Baghouse

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
63.7743(a)(8)	Continuous compliance demonstration for existing cupola	Maintaining the average limits: VOH/AP ≤ 20 ppmv @ 10% O ₂	63.7740(a)	Temperature monitor C	Once every six months	Y
63.7743(a)(12)	Continuous compliance demonstration – subsequent performance tests for PM or total metal HAP, VOHAP	PM or total metal HAP: 63.7690(a)(2); and VOHAP: 63.7690(a)(8)	63.7743(a)(12)	Source Test P/E Every 5 years	Every 5 years	Y
63.7743(b)	Continuous compliance demonstration – capture system	0.2 inches of water column vacuum (O&M Plan)	63.7731(a)	Source Test P/E Every 5 years	Every 5 years	Y
63.7743(c)	Continuous compliance demonstration - baghouse		Static pressure monitor for flow detection	C	Once every six months	N – Refer to Title V Monitoring Deviation Report included in Section 2 of the Combined Semi-Annual Report
63.7743(e)	Continuous compliance demonstration – combustion device		Inspections P/Varies	Once every six months	Y	
63.7745(a)(1)	Continuous compliance demonstration – operation and maintenance requirements		Temperature monitor C	Once every six months	Y	
63.7745(a)(2)	Continuous compliance demonstration – Preventative maintenance		Inspections, corrective action, record keeping	Once every six months	Y	
63.7745(a)(3)	Continuous compliance demonstration – big leak detection system		P/M	Once every six months	Y	
63.7745(a)(4)	Continuous compliance demonstration – baghouse corrective action		Record keeping P/E	Once every six months	Y	
63.7745(b)	Maintain operation and maintenance plan onsite		Record keeping P/E	Once every six months	Y	



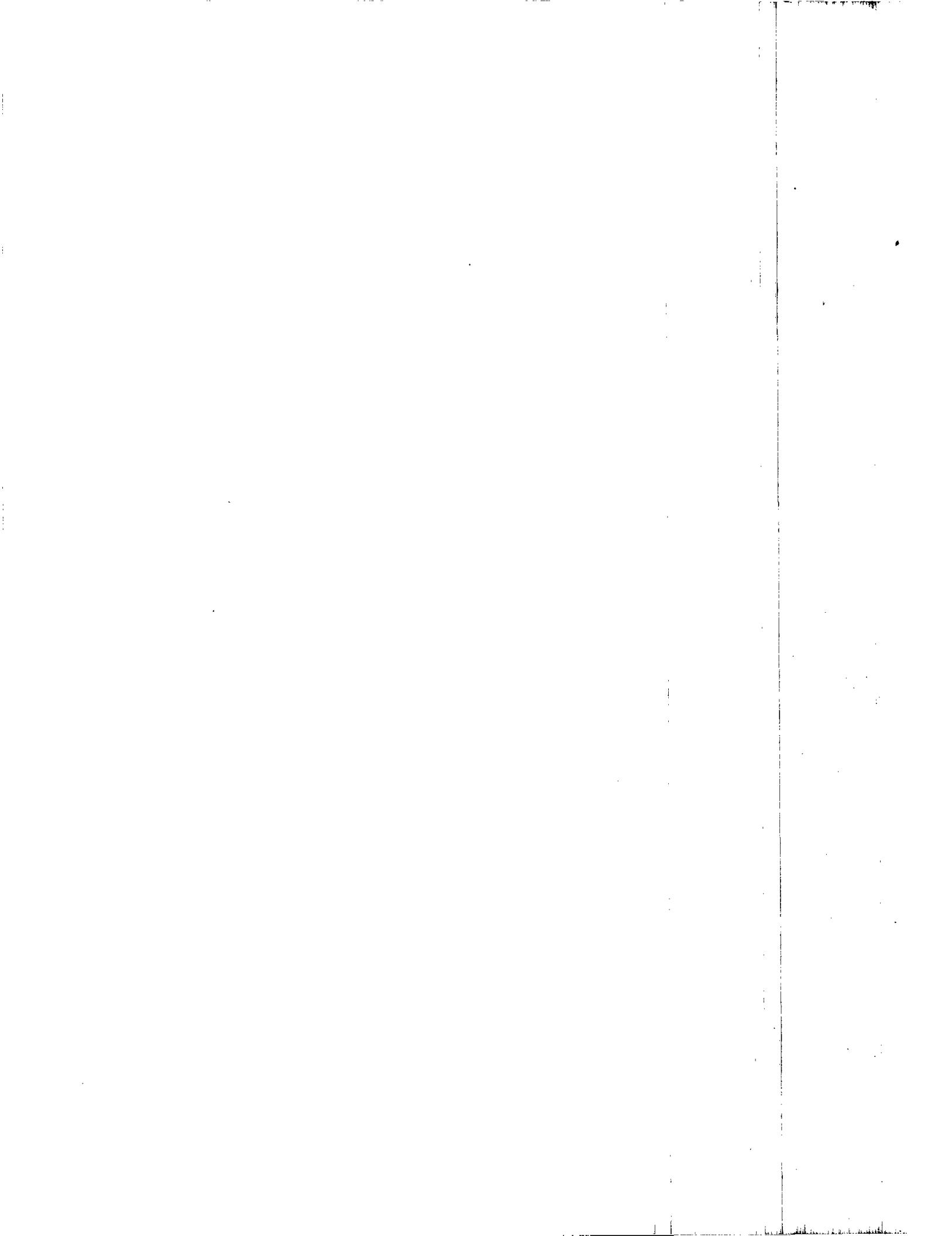
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-1 – Cupola abated by A-20, A-22 Afterburner and A-19 Baghouse

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
63.7746(a)	Deviations	Report deviations from emissions limitations, work practice standards, and operation and maintenance requirements, including startup, shutdown, malfunction	63.7746(a)	Record keeping P/E	Once every six months	Y
63.7746(b)	Startup, shutdown, malfunction deviations are not violations					Y
63.7750	Notification requirements					Y
63.7751	Reporting requirements					Y
63.7752	Recordkeeping requirements					Y
63.7753	Recordkeeping requirements (5 years)					Y
63.7760	'Table I: Applicability of General Provisions (Subpart A)					Y
63.7761	Delegation					Y
63.7765	Definitions					Y
BAAQMD Condition #9351						
Part 1	Minimum A-20, A-22 Afterburners combustion zone Temperature (basis: 40 CFR 63.7690 (b)(3))	Afterburner combustion zone temperature \geq 1300°F (15-min average, not including 15 min transition from off-blast to on-blast)	63.7740(a); BAAQMD Condition #9351, Part 2	Temperature monitor C	Once every six months	Y
Part 2	Continuous temperature monitor and recorder requirement (basis: cumulative increase, Regulation 1-521)					Y
Part 3	Record keeping requirement - temperature (basis: cumulative increase, BAAQMD Regulation 2-6-501)					Y
Part 4	Coke sulfur content limit and procedure to raise limit (basis: BAAQMD Regulation 9-1-302, BAAQMD Regulation 2-6-501)	Coke sulfur content limit 1.0% by weight	BAAQMD Condition #9351, Part 4	Fuel certification; Source test if > 1.0% P/E	Once every six months	Y



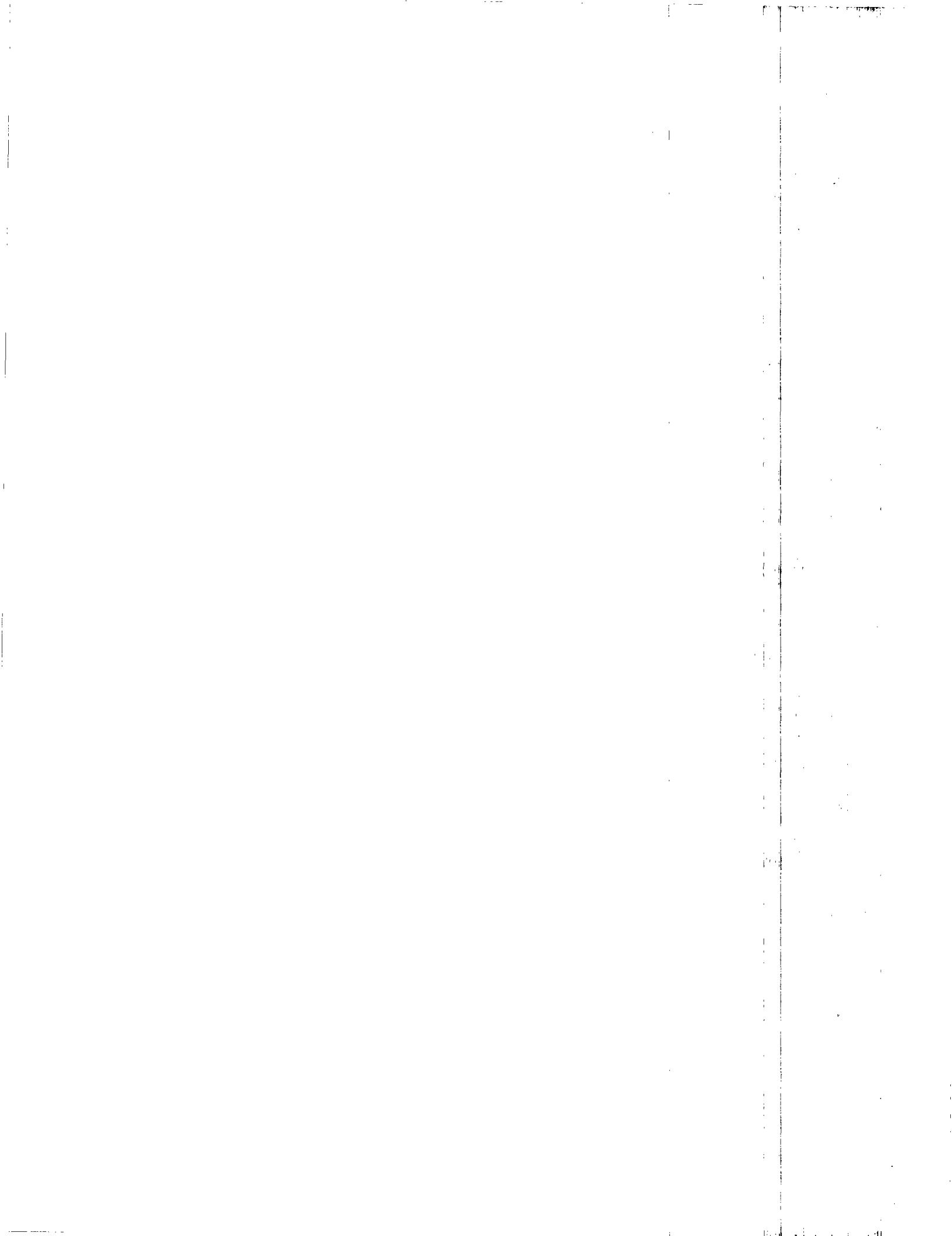
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-1 – Cupola abated by A-20, A-22 Afterburner and A-19 Baghouse

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring Frequency	Monitoring & Reporting	Compliance (Y/N)
Part 5	Ratio of total metal to total coke charged into S-1 limit	Total Metal (includes scrap iron, steel, returns, and pig iron) to Coke $\geq 10:1$	BAAQMD Condition # 9351, Part 8	Record Keeping	Daily, Monthly, Annual Average P/D	Y
Part 6	Daily total metal throughput limit	Total Metal ≤ 513 tons/day	BAAQMD Condition # 9351, Part 8	Record Keeping	Daily, Monthly, Annual Average P/D	Y
Part 7	Gray iron throughput	Gray iron throughput $\leq 172,800$ ton/any consecutive 12-months	BAAQMD Condition #9351, Part 8	Record keeping	Once every six months P/M	Y
Part 8	Record keeping requirement - Gray iron throughput (basis: Regulation 2-1-403)					Y
Part 9	Limit on firing rate of the A-20 Afterburner (basis: cumulative increase)	Firing rate of the A-20 Afterburner ≤ 8 MMBlu/hr	BAAQMD Condition #9351, Part 8	Record keeping	Once every six months P/M	Y
Part 10	Limit on firing rate of the A-22 Afterburner (basis: cumulative increase)	Firing rate of the A-22 Afterburner ≤ 8 MMBlu/hr	BAAQMD Condition #9351, Part 8	Record keeping	Once every six months P/M	Y
Part 11	Source test for PM, opacity, CO, VOC, SO ₂ , NO _x , lead every 5 years					Y
CAM Condition #25039	Definition of exceedance: OPACITY Ringelmann 1.0 < 3 min/hr(Basis: 40 CFR Part 64.6(c)(2)) Definitions of excursion: i) 10 milligrams PM/actual cubic meter for 15 min; or ii) Pressure drop less than 2 inches or greater than 10 inches water column (Basis: 40 CFR Part 64.6(c)(2))					N – Refer to Title V Monitoring Deviation Report included in Section 2 of the Combined Semi-Annual Report
Part 14a						Y
Part 14b						Y
Part 15	Bag leak detector requirement (Basis: 40 CFR Part 64.6(c)(1); 40 CFR Part 64.6(c)(3))					Y



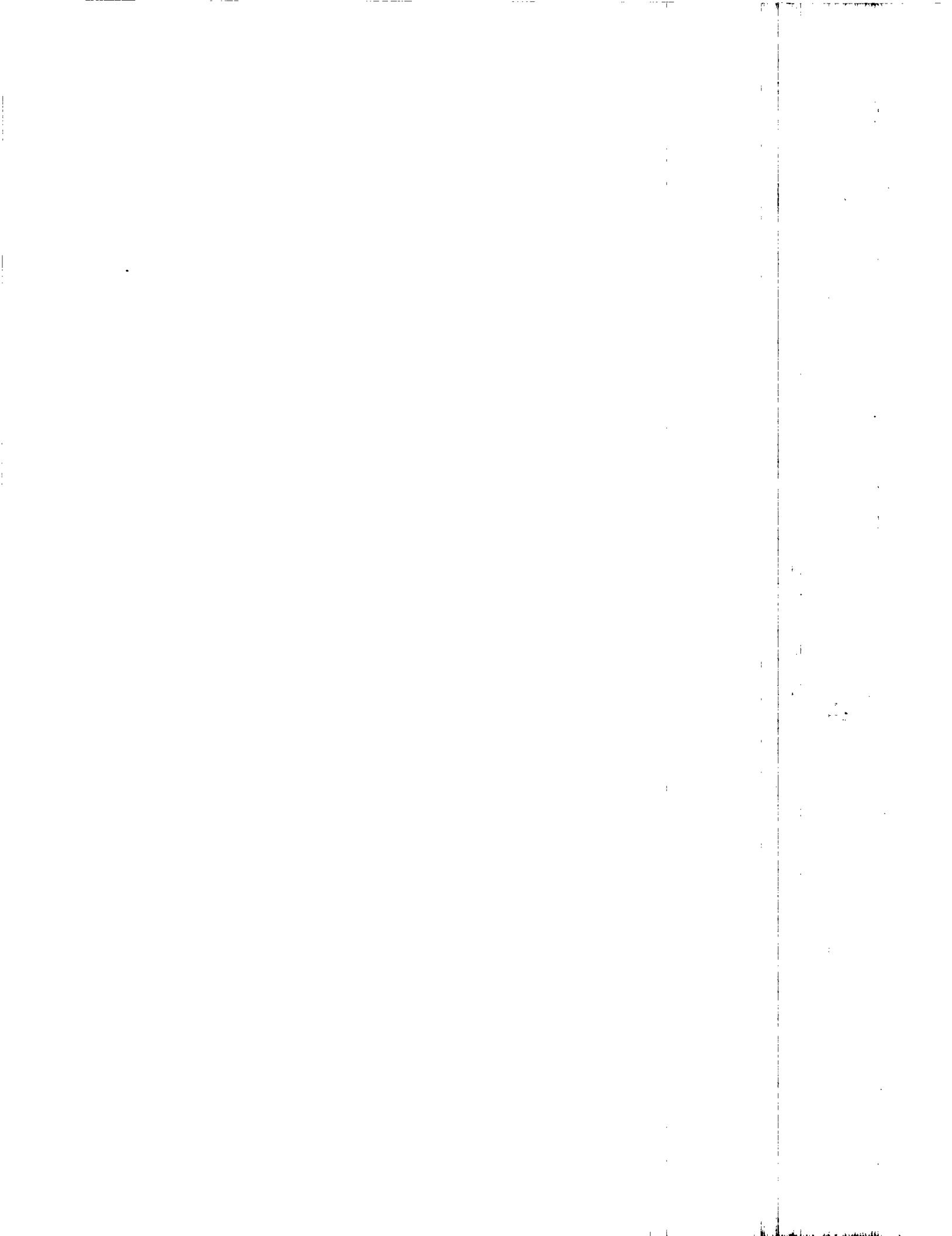
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-1 – Cupola abated by A-20, A-22 Afterburner and A-19 Baghouse

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
Part 16	Bag leak detector alarm requirement (Basis: 40 CFR Part 64.6(c)(1)) Indicator range: PM<10 milligrams/actual cubic meter (Basis: 40 CFR Part 64.3(a)(2))					Y
Part 17	Visual inspection and testing requirement for bag leak detection sensors (Basis: 40 CFR Part 64.3(b)(3) and (b)(2))					Y
Part 18	Pressure gauge installation requirement (Basis: 40 CFR Part 64.6(c)(1))					Y
Part 19	Indicator range for pressure gauges: 2 to 10 inches of water column (40 CFR Part 64.3(a)(2))					Y
Part 20	Pressure gauge reading - Daily (Basis: 40 CFR Part 64.6(c)(3); 40 CFR Part 64.3(b)(4)(iii))					Y
Part 21	Pressure gauge calibration – quarterly(Basis: 40 CFR Part 64.3(b)(3) and (b)(2)) Procedures for excursion (Basis: 40 CFR Parts 64.6(c)(3), 64.7(d)(2), 64.8)					Y
Part 22	Method 9 observation requirement after 2 or more excursions at the same abatement device occur within 2 weeks (Basis: 40 CFR Part 64.6(c)(3); 40 CFR Part 64.3(b)(4)(iii))					Y
Part 23	Reporting requirement – excursions, exceedances (Basis: 40 CFR Part 64.6(c)(3) and 40 CFR Part 64.9(a)(2))					Y
Part 24	Reporting requirement – monitor downtime incidents(Basis: 40 CFR Part 64.6(c)(3) and 40 CFR Part 64.9(a)(2))					Y
Part 25b	Inspection of baghouse and monitoring system (Basis: 40 CFR Part 64.6(c)(1)(iii)) Source test for PM and opacity – every 5 years (Basis: Regulation 2-1-403)					Y
Part 26	Recordkeeping requirements (Basis: Regulation 2-6-501 Recordkeeping)					Y
Part 27						Y
Part 28						Y



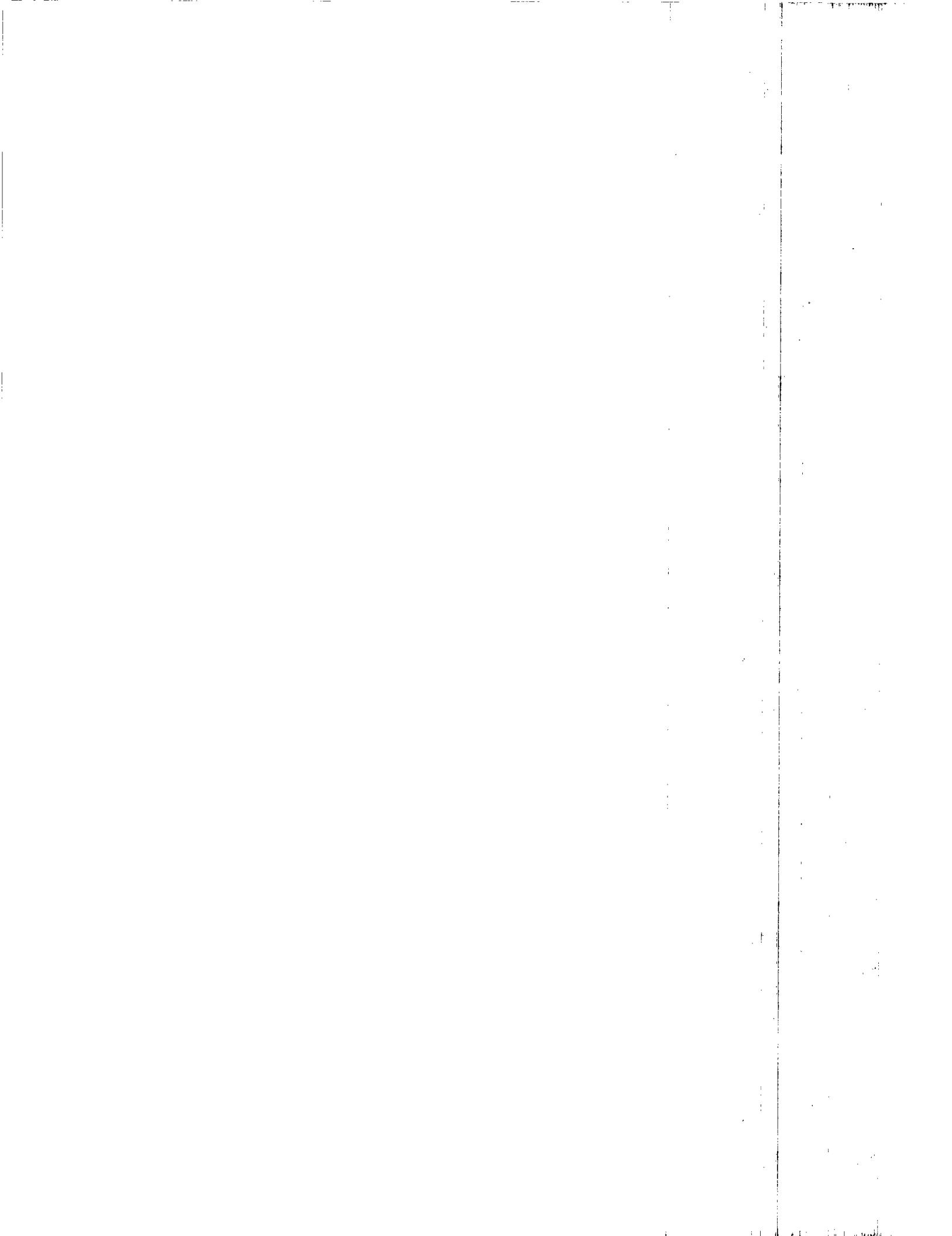
**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-2 Pouring, Cooling, Shakeout abated by A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
BAAQMD Regulation 6, Rule 1	Particulate Matter (12/05/07)					
6-1-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr	40 CFR 63.7740(b); CAM Condition #25039, Part 15 (A-21)	Bag leak detector C	Once every six months	Y
			CAM Condition #25039 Part 21 (A-21)	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039 Part 2 (A-14, A-18)	Visible Emissions (M22) P/W	Once every six months	Y
			CAM Condition #25039 Part 5 (A-14, A-18)	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039 Part 11 (A-14, A-18) and Part 27 (A-21)	Source Test P/Every 5 years	Every 5 years	Y
6-1-305	Visible Particles	FILTERABLE PARTICULATE 0.15 gr/dscf	40 CFR 63.7740(b); CAM Condition #25039, Part 15 (A-21)	Bag leak detector C	Once every six months	Y
6-1-310	Particulate Weight Limitation		CAM Condition #25039 Part 21 (A-21)	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039 Part 2 (A-14, A-18)	Visible Emissions (M22) P/W	Once every six months	Y



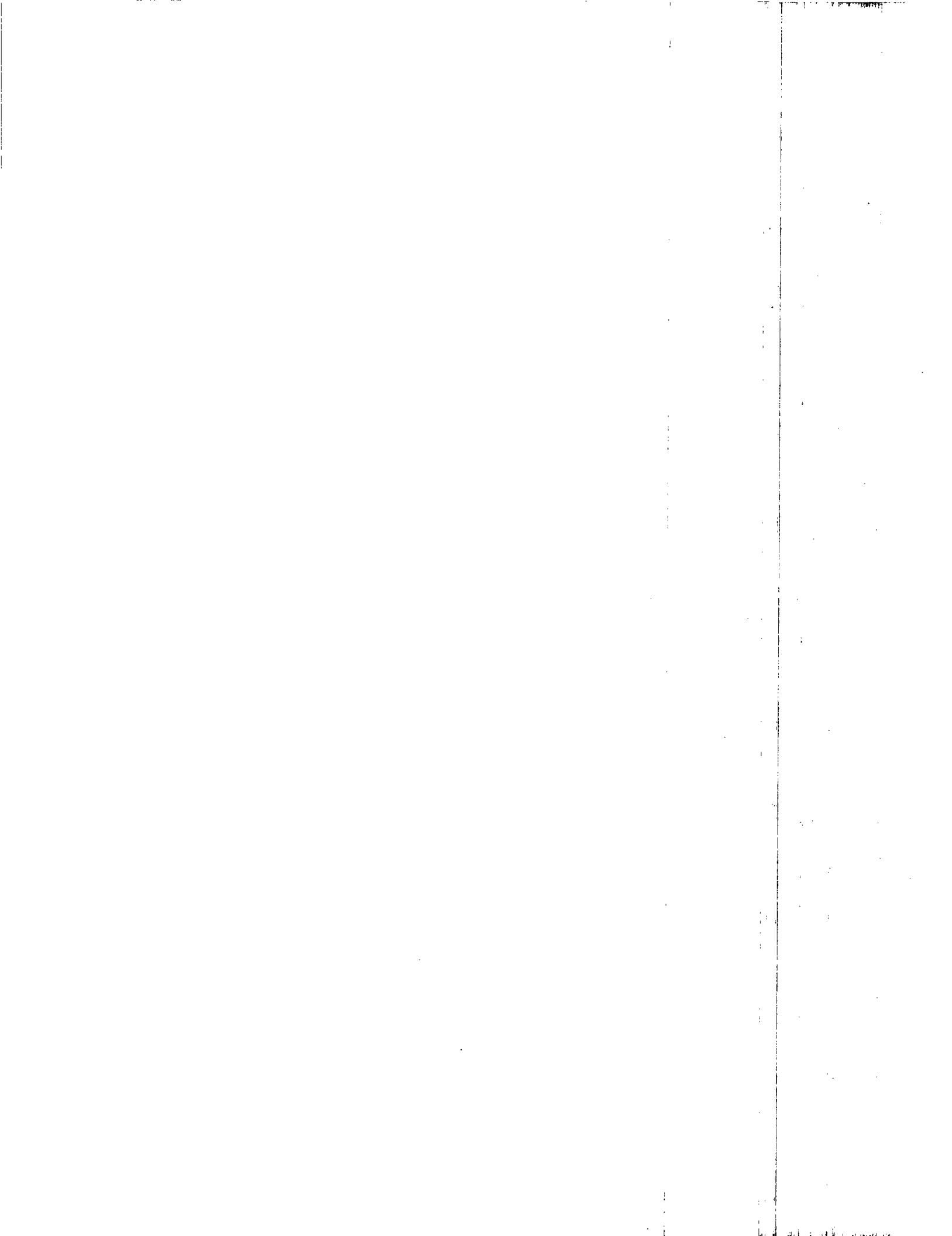
**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-2 Pouring, Cooling, Shakeout abated by A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
			CAM Condition #25039 Part 5 (A-14, A-18)	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039, Part 11 (A-14, A-18) and Part 27 (A-21)	Source Test P/every 5 years	Every 5 years	Y
			40 CFR 63.7740(b); CAM Condition #25039, Part 15 (A-21)	Bag leak detector C	Once every six months	Y
6-1-311	General Operations	4.10P ^{0.67} lb/hr where P is process weight, ton/hr	CAM Condition #25039 Part 21 (A-21)	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039 Part 2 (A-14, A-18)	Visible Emissions (M22) P/W	Once every six months	Y
			CAM Condition #25039 Part 5 (A-14, A-18)	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039 Part 11 (A-14, A-18) and Part 27 (A-21)	Source Test P/every 5 years	Every 5 years	Y
6-1-401	Appearance of Emissions	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions				Y
6-1-601						Y



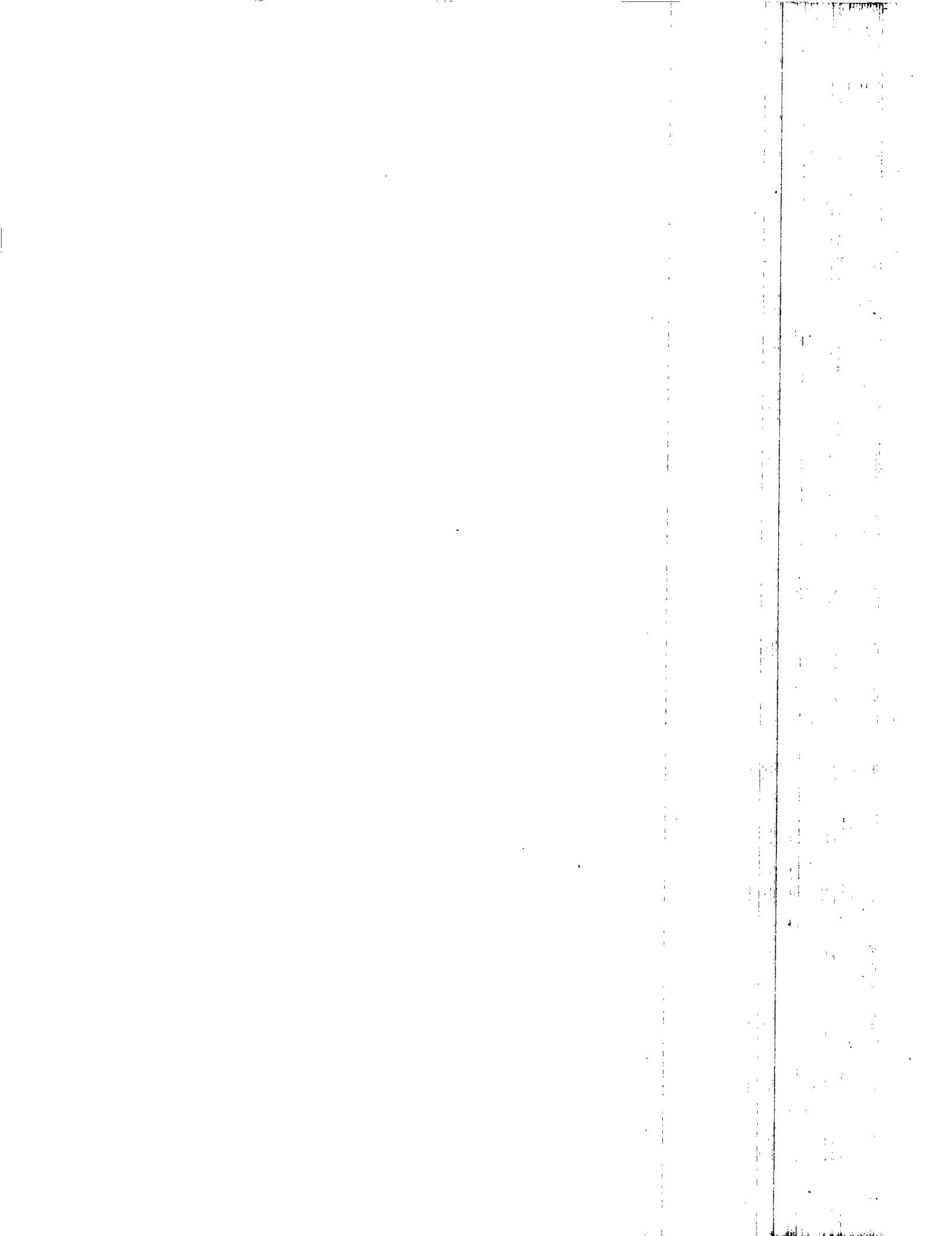
**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-2 Pouring, Cooling, Shakeout abated by A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
SIP Regulation 6	Particulate Matter and Visible Emissions (09/04/98)					
6-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr	40 CFR 63.7740(b); CAM Condition #25039, Part 15 (A-21)	Bag leak detector C	Once every six months	Y
			CAM Condition #25039, Part 21 (A-21)	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039, Part 2, (A-14, A-18)	Visible Emissions (M22) P/W	Once every six months	Y
			CAM Condition #25039 Part 5 (A-14, A-18)	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039, Part 11 (A-14, A-18) and Part 27 (A-21)	Source Test P/every 5 years	Once every six months	Y
6-305	Visible Particles	FILTERABLE PARTICULATE 0.15 gr/dscf	40 CFR 63.7740(b); CAM Condition #25039, Part 15 (A-21)	Bag leak detector C	Once every six months	Y
6-310	Particulate Weight Limitation		CAM Condition #25039, Part 21 (A-21)	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039 Part 2 (A-14, A-18)	Visible Emissions (M22) P/W	Once every six months	Y



**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-2 Pouring, Cooling, Shakeout abated by A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
		CAM Condition #25039 Part 5 (A-14, A-18)	Pressure drop monitoring P/D	Once every six months		Y
		CAM Condition #25039, Part 11 (A-14, A-18) and Part 27 (A-21)	Source Test P/every 5 years	Once every six months		Y
6-311	General Operations	FILTERABLE PARTICULATE weight, ton/hr 4.10P0.67 lb/hr, where P is process	Bag leak detector C	Once every six months		Y
		CAM Condition #25039, Part 15 (A-21)	Pressure drop monitoring P/D	Once every six months		Y
		Condition #25039 Part 21 (A-21)	Pressure drop monitoring P/D	Once every six months		Y
		CAM Condition #25039 Part 2 (A-14, A-18)	Visible Emissions (M22) P/W	Once every six months		Y
		CAM Condition #25039 Part 5 (A-14, A-18)	Pressure drop monitoring P/D	Once every six months		Y
		CAM Condition #25039, Part 11 (A-14, A-18) and Part 27 (A-21)	Source Test P/every 5 years	Once every six months		Y
6-401	Appearance of Emissions					Y
6-601	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions					Y
BAAQMD Regulation 8, Rule 2	Organic Compounds: Miscellaneous Operations (7/20/2005)					

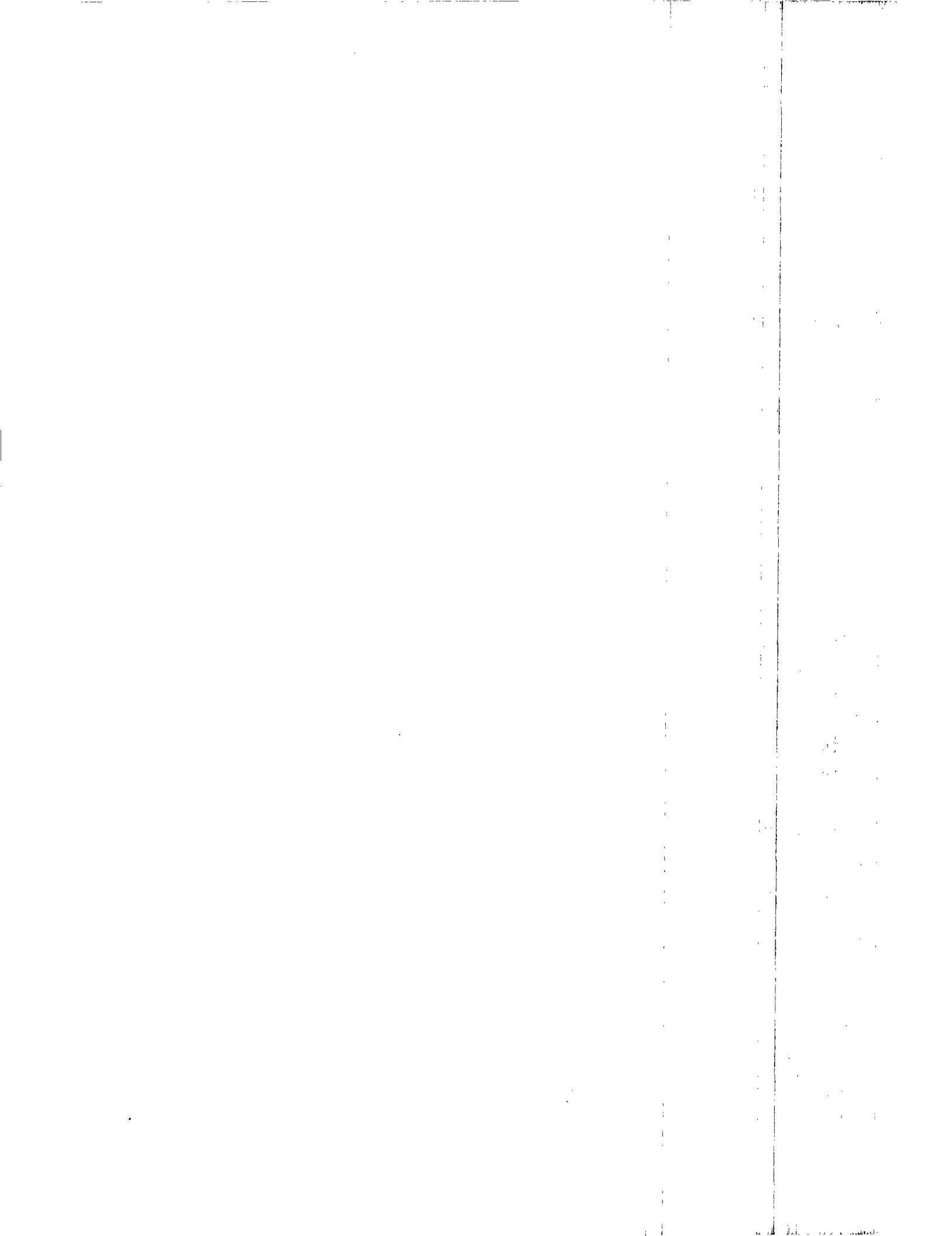


**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-2 Pouring, Cooling, Shakeout abated by A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
8-2-301	Miscellaneous Operations	15 VOC lb/day and 300ppmd	BAAQMD Condition #23650, Part 7	Source Test P/Every 5 years	Every 5 years	Y
8-2-601	Determination of Compliance					Y
NESHAP 40 CFR Part 63, Subpart EEEE	National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries (02/07/2008)					
63.7681	Am I subject to this subpart?					Y
63.7682	What parts of my foundry does this subpart cover?					Y
63.7683(a)	Existing source compliance deadline (April 23, 2007)					Y
63.7683(b)	Existing source compliance deadline for work practice standards (April 22, 2005)					Y
63.7683(f)	Notification and Schedule requirements (63.7750)					Y
63.7690(a)(5)	Emissions Limitations for each pouring station at existing iron and steel foundry	PM 0.010 gr/dscf; or 0.0008 gr/dscf of total metal HAP	63.7740(b)	Bag leak detector C	Once every six months	Y
			63.7740(b)	Baghouse inspection P/varies		Y
			63.7731(a); 63.7743(a)(12)	Source Test P/Every 5 years		Y
63.7710(a)	Operate and maintain foundry consistent with good air pollution control practices					Y
63.7710(b)	Operation and maintenance plan for each capture and collection system and control device					Y
63.7710(b)(1)	Monthly inspections of abatement equipment					Y
63.7710(b)(3)	Preventative maintenance plan for each control device					Y
63.7710(b)(4)	Monitoring plan for each bag leak detection system					Y
63.7710(b)(5)	Corrective action plan for each baghouse	Initiate corrective action to determine the cause of the alarm within 1 hour of the alarm, initiate corrective action to correct the cause of the problem within 24 hours	63.7745(a)(4)	Record keeping P/E	Once every six months	Y

**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-2 Pouring, Cooling, Shakeout abated by A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
63.7710(b)(6)	Procedures for providing an ignition source to mold vents of sand mold systems					Y
63.7720(a)	General compliance requirements, exemption startup, shutdown, malfunction					Y
63.7720(c)	Develop a written startup, shutdown, and malfunction plan					Y
63.7730(a)	Initial performance test within 180 days of April 23, 2007	PM or total metal HAP: 63.7690(a)(5)	40 CFR Part 63.7(a)(2) P/E	Initial performance test P/E	Initial	Y
63.7730(b)	Initial demonstration of compliance with work practice standards and operation and maintenance requirements within 30 days of April 22, 2005					Y
63.7731(a)	Subsequent performance tests for PM	PM or total metal HAP: 63.7690(a)(5)	63.7731(a) P/E	Source Test Every 5 years	Every 5 years	Y
63.7732	Test Methods					Y
63.7733	Procedures for establishing operating limits					Y
63.7734(a)(2)	Initial compliance demonstration for existing cupola					Y
63.7735	Initial compliance demonstration with work practice standards					Y
63.7736	Initial compliance demonstration with operation and maintenance requirements					Y
63.7740(b)	Monitoring requirements—for baghouse, use bag leak detection system					Y
63.7740(c)(1)	Monitoring requirements— Baghouse inspection requirements	Pressure drop normal operating range	63.7740(c)(1) P/D	Pressure drop monitoring P/D	Once every six months	Y
63.7740(c)(2)	Monitoring requirements— Baghouse inspection requirements	Check dust removal from hoppers	63.7740(c)(2) P/W	Visual inspection P/W	Once every six months	Y
63.7740(c)(3)	Monitoring requirements— Baghouse inspection requirements	Adequate compressed air supply for pulse-jet baghouses	63.7740(c)(3) P/D	Inspection P/D	Once every six months	Y

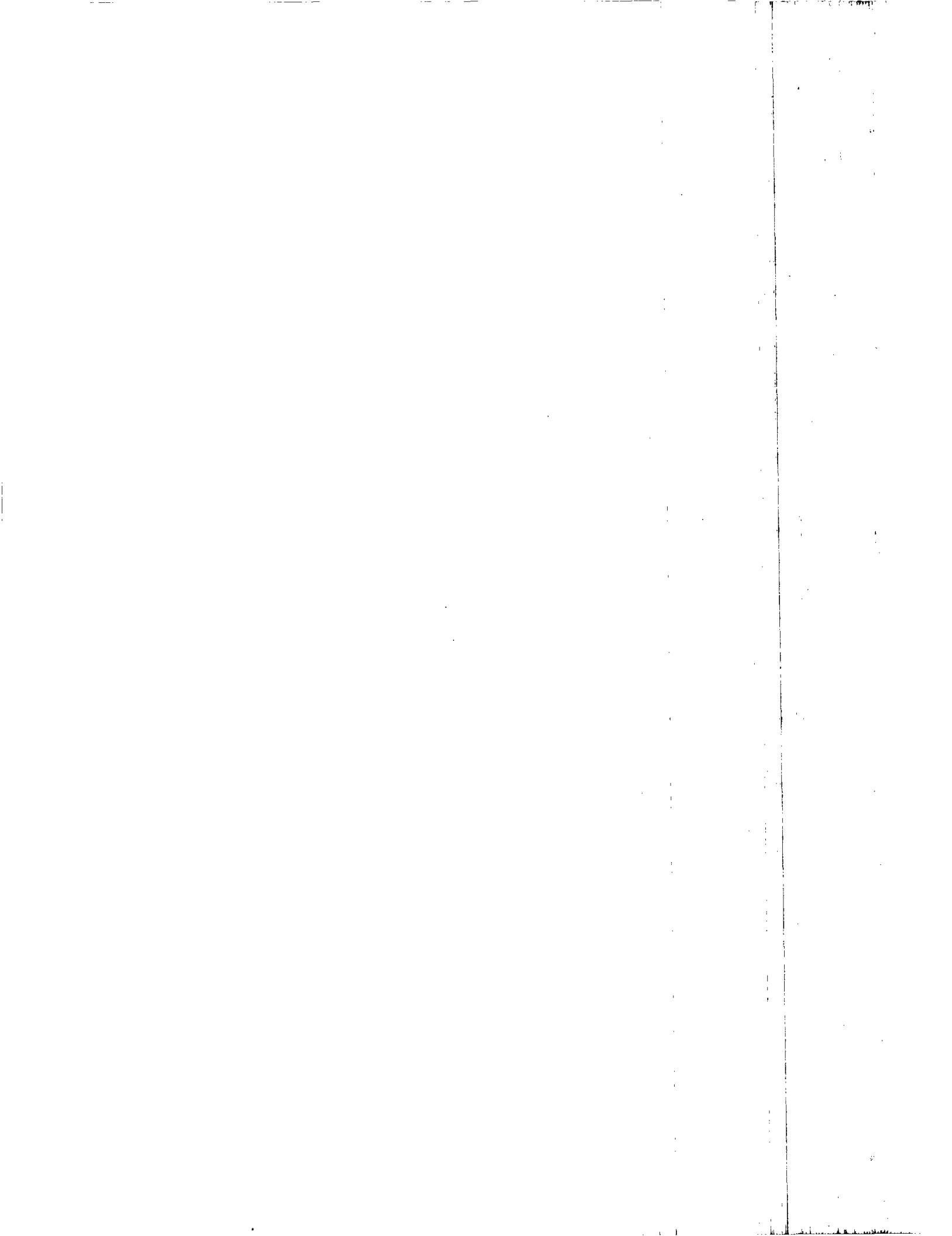


**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-2 Pouring, Cooling, Shakeout abated by A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
63.7740(c)(4)	Monitoring requirements – Baghouse inspection requirements	Monitor cleaning cycles	63.7740(c)(4)	Inspection P/A	Once every six months	Y
63.7740(c)(5)	Monitoring requirements – Baghouse inspection requirements	Check bag cleaning mechanisms	63.7740(c)(5)	Visual inspection P/M	Once every six months	Y
63.7740(c)(7)	Monitoring requirements – Baghouse inspection requirements	Check physical integrity of baghouses interior	63.7740(c)(7)	Visual inspection P/Q	Once every six months	Y
63.7740(c)(8)	Monitoring requirements – Baghouse inspection requirements	Inspect fans for wear, material buildup, corrosion	63.7740(c)(8)	Visual inspection P/Q	Once every six months	Y
63.7741(b)(1-5)	Install, operate, maintain a bag leak detection system					Y
63.7741(l)(1,2,3)	CPMS requirements					Y
63.7742	Monitoring and collection of data to demonstrate continuous compliance (excluding malfunctions, associated repairs, required quality assurance or control activities)	Maintaining the average limits: PM 0.010 gr/dscf; or 0.0008 gr/dscf of total metal HAP	63.7740(b)	Bag leak detector C	Once every six months	Y
63.7743(a)(5)	Continuous compliance demonstration for existing pouring station		63.7740 (c)	Baghouse inspection P/varies		Y
			63.7731(a); 63.7743(a)(12)	Source Test		Y
63.7743(a)(12)	Continuous compliance demonstration - subsequent performance tests for PM	PM or total metal HAP: 63.769(a)(5)	63.7731(a)	P/Every 5 years Source Test	Every 5 years	Y
63.7743(c)	Continuous compliance demonstration - baghouse			Inspections P/varies	Once every six months	Y

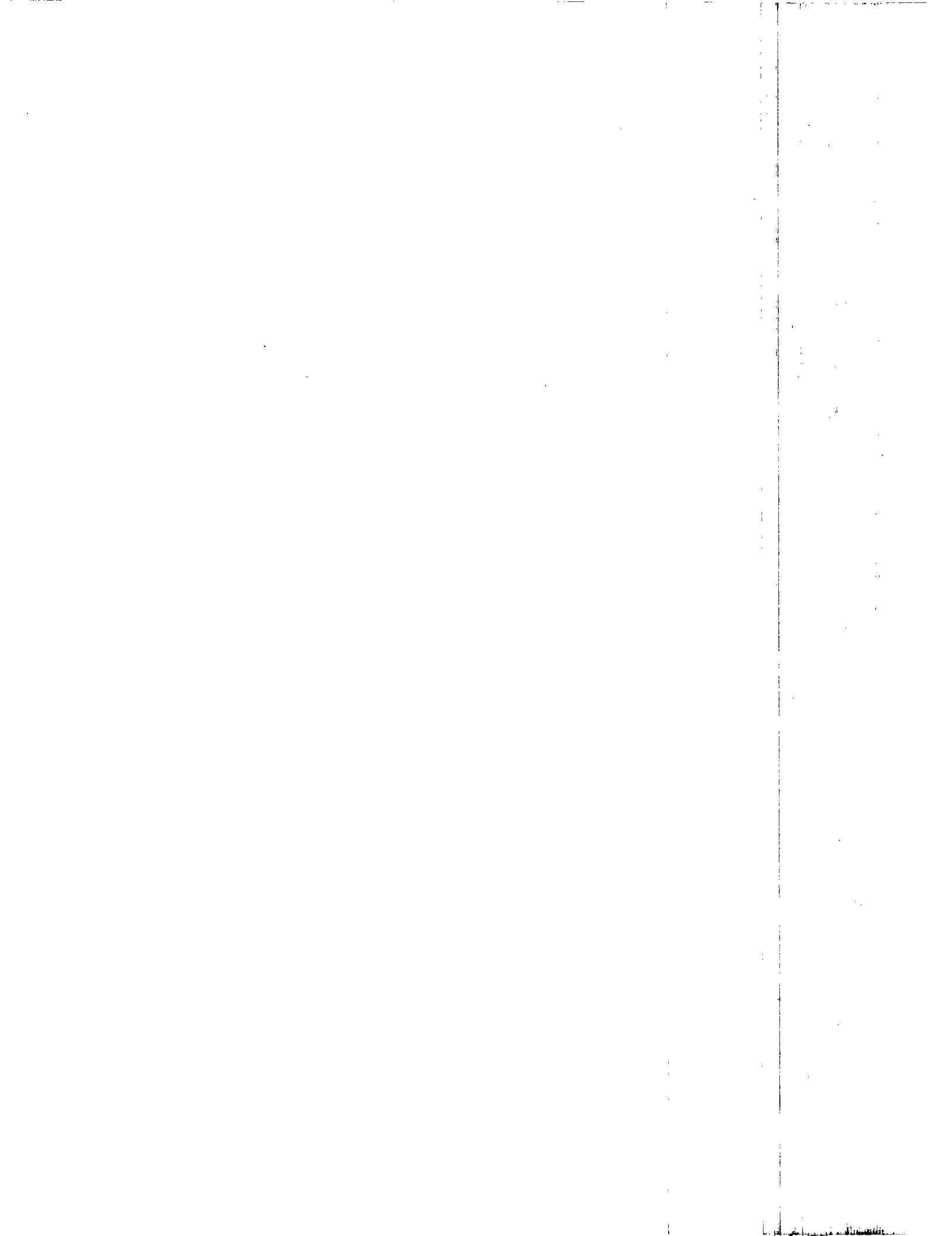
**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-2 Pouring, Cooling, Shakeout abated by A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
63.7745(a)(1)	Continuous compliance demonstration – operation and maintenance requirements			Inspections, corrective action, record keeping	Once every six months	Y
63.7745	Igniting gases from mold vents		63.7710(b)(6)	P/M		Y
63.7745(a)(2)	Continuous compliance demonstration – Preventative maintenance			Record keeping P/E	Once every six months	Y
63.7745(a)(3)	Continuous compliance demonstration – bag leak detection system			Record keeping P/E	Once every six months	Y
63.7745(a)(4)	Continuous compliance demonstration – baghouse corrective action			Record keeping P/E	Once every six months	Y
63.7745(b)	Maintain operation and maintenance plan onsite					Y
63.7746(a)	Deviations	Report deviations from emissions limitations, work practice standards, and operation and maintenance requirements, including startup, shutdown, malfunction	63.7746(a)	Record keeping P/E	Once every six months	Y
63.7746(b)	Startup, shutdown, malfunction deviations are not violations					Y
63.7750	Notification requirements					Y
63.7751	Reporting requirements					Y
63.7752	Recordkeeping requirements					Y
63.7753	Recordkeeping requirements (5 years)					Y
63.7760	Table 1: Applicability of General Provisions (Subpart A)					Y
63.7761	Delegation					Y
63.7765	Definitions					Y
BAAQMD Condition #23650						



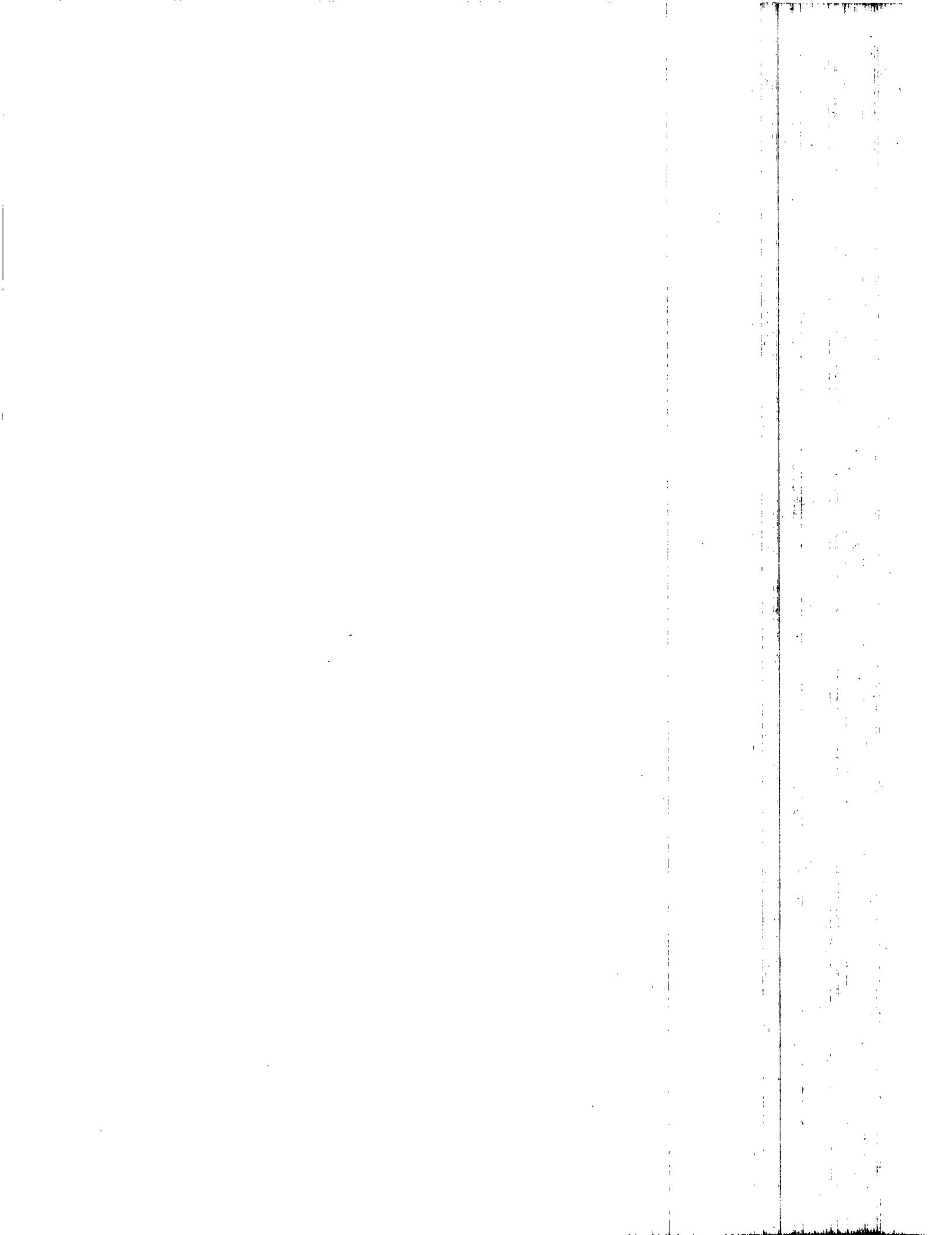
**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-2 Pouring, Cooling, Shakeout abated by A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
Part 1	Abatement requirement with A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5 (basis: Cumulative Increase)					Y
Part 4	A-21 Baghouse #5 outlet grain loading limit (basis: cumulative increase)	FILTERABLE PARTICULATE 0.01 g/dscf	CAM Condition #25039, Part 13	Bag leak detector C	Once every six months	Y
Part 6	Recordkeeping requirement (basis: Regulation 2-1-403)					Y
Part 7	Source test requirement for VOC every 5 years (basis: Regulation 2-1-403)					Y
Part 8	Iron cast in sand molds facility limit (Basis: Cumulative Increase)	≤ 36,000 tons/any consecutive 12-month period	BA&QMD Condition #2237, Part 6	Record keeping P/M	Once every six months	Y
CAM Condition #25039						
For A-14 and A-18 #25039						
Part 1	Definition of exceedance: OPACITY Ringelmann 1.0 < 3 min/hr (Basis: 40 CFR Part 64.6(c)(2))					Y
Part 2	Definitions of excursion: i) any visible emissions (M22); or ii) Pressure drop less than 2 inches or greater than 10 inches water column (Basis: 40 CFR Part 64.6(c)(2))					Y
Part 3	Pressure gauge installation requirement (Basis: 40 CFR Part 64.6(c)(1))					Y
Part 4	Indicator range for pressure gauges: 2 to 10 inches of water column (40 CFR Part 64.3(a)(2))					Y
Part 5	Pressure gauge reading - Daily (Basis: 40 CFR Part 64.6(c)(3); 40 CFR Part 64.3(b)(4)(iii))					Y
Part 6	Pressure gauge calibration (Basis: 40 CFR Part 64.3(b)(3) and (b)(2))					Y
Part 7	Procedures for excursion (Basis: 40 CFR Parts 64.6(c)(3), 64.7(d)(2), 64.8)					Y



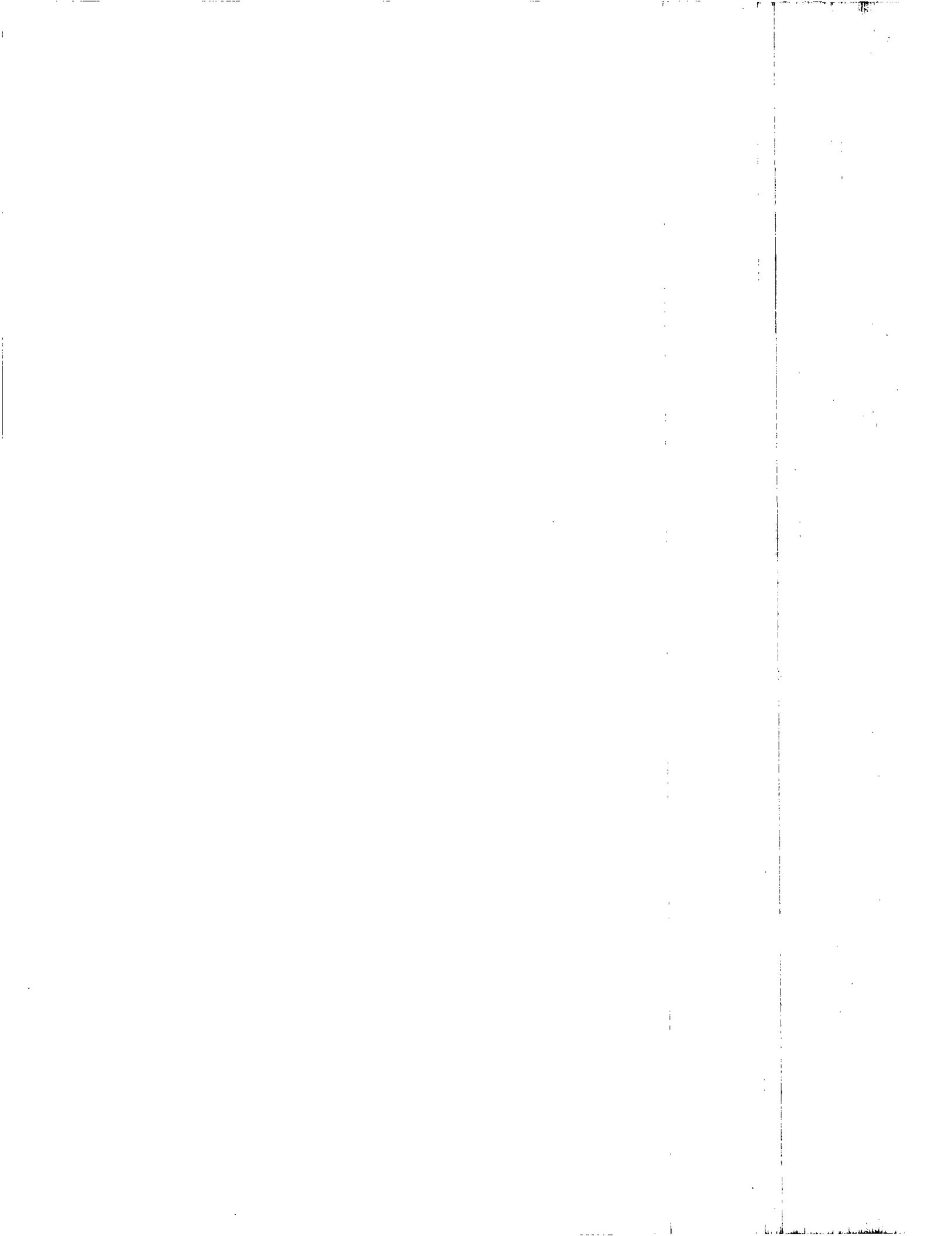
**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-2 Pouring, Cooling, Shakeout abated by A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
Part 8	Method 9 observation requirement after 2 or more excursions at the same abatement device occur within 2 weeks (Basis: 40 CFR Part 64.6(c)(3); 40 CFR Part 64.3(b)(4)(iii))					Y
Part 9a	Reporting requirement – excursions, exceedances (Basis: 40 CFR Part 64.6(c)(3) and 40 CFR Part 64.9(a)(2))					Y
Part 9b	Reporting requirement – monitor downtime incidents (Basis: 40 CFR Part 64.6(c)(3) and 40 CFR Part 64.9(a)(2))					Y
Part 10	Inspection of baghouse (Basis: 40 CFR Part 64.6(c)(1)(iii))					Y
Part 11	Source test for compliance with SIP Regulation 6, sections 301, 310 and 311 – every 5 years (Basis: Regulation 2-1-403)					Y
Part 12	Recordkeeping requirements (Basis: Regulation 2-6-501 Recordkeeping)					Y
Part 13	Operation and Maintenance Plan (non-NESHAP) requirement (Basis: 40 CFR Part 64.6(c)(1)(iii))					Y
For A-21						
Part 14a	Definition of exceedance: OPACITY Ringelmann 1.0 < 3 min/hr(Basis: 40 CFR Part 64.6(c)(2))					Y
Part 14b	i) 10 milligrams PM/actual cubic meter for 15 min; or ii) Pressure drop less than 2 inches or greater than 10 inches water column (Basis: 40 CFR Part 64.6(c)(2))					Y
Part 15	Bag leak detector requirement (Basis: 40 CFR Part 64.6(c)(1); 40 CFR Part 64.6(c)(3))					Y
Part 16	Bag leak detector alarm requirement (Basis: 40 CFR Part 64.6(c)(1))					Y



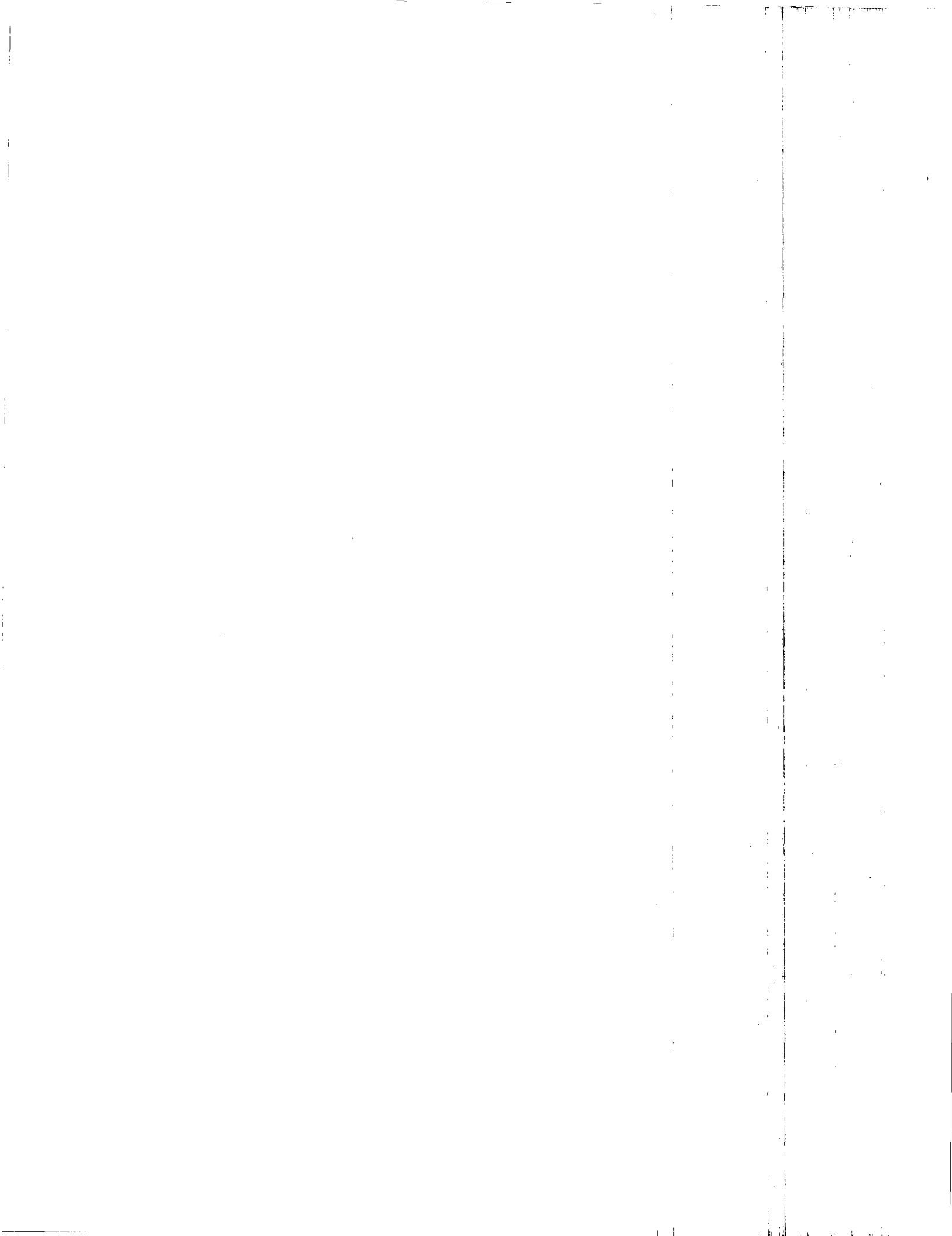
**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-2 Pouring, Cooling, Shakeout abated by A-14 Baghouse #2, A-18 Baghouse #4 and A-21 Baghouse #5**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
Part 17	Indicator range: PM<10 milligrams/actual cubic meter (Basis: 40 CFR Part 64.3(a)(2)) Visual inspection and testing requirement for bag leak detection sensors (Basis: 40 CFR Part 64.3(b)(3) and (b)(2))					Y
Part 18	Pressure gauge installation requirement (Basis: 40 CFR Part 64.6(c)(1))					Y
Part 19	Indicator range for pressure gauges: 2 to 10 inches of water column (40 CFR Part 64.3(a)(2))					Y
Part 20	Pressure gauge reading - Daily (Basis: 40 CFR Part 64.6(c)(3); 40 CFR Part 64.3(b)(4)(iii))					Y
Part 21	Pressure gauge calibration -- quarterly(Basis: 40 CFR Part 64.3(b)(3) and (b)(2))					Y
Part 22	Procedures for excursion (Basis: 40 CFR Parts 64.6(c)(3), 64.7(d)(2), 64.8)					Y
Part 23	Method 9 observation requirement after 2 or more excursions at the same abatement device occur within 2 weeks (Basis: 40 CFR Part 64.6(c)(3); 40 CFR Part 64.3(b)(4)(iii))					Y
Part 24	Reporting requirement -- excursions exceedances (Basis: 40 CFR Part 64.6(c)(3) and 40 CFR Part 64.9(a)(2))					Y
Part 25a	Reporting requirement -- monitor downtime incidents(Basis: 40 CFR Part 64.6(c)(3) and 40 CFR Part 64.9(a)(2))					Y
Part 25b	Inspection of baghouse and monitoring system(Basis: 40 CFR Part 64.6(c)(1)(iv))					Y
Part 26	Source test for PM and opacity -- every 5 years (Basis: Regulation 2-1-403)					Y
Part 27	Recordkeeping requirements (Basis: Regulation 2-6-501 Recordkeeping)					Y
Part 28						Y



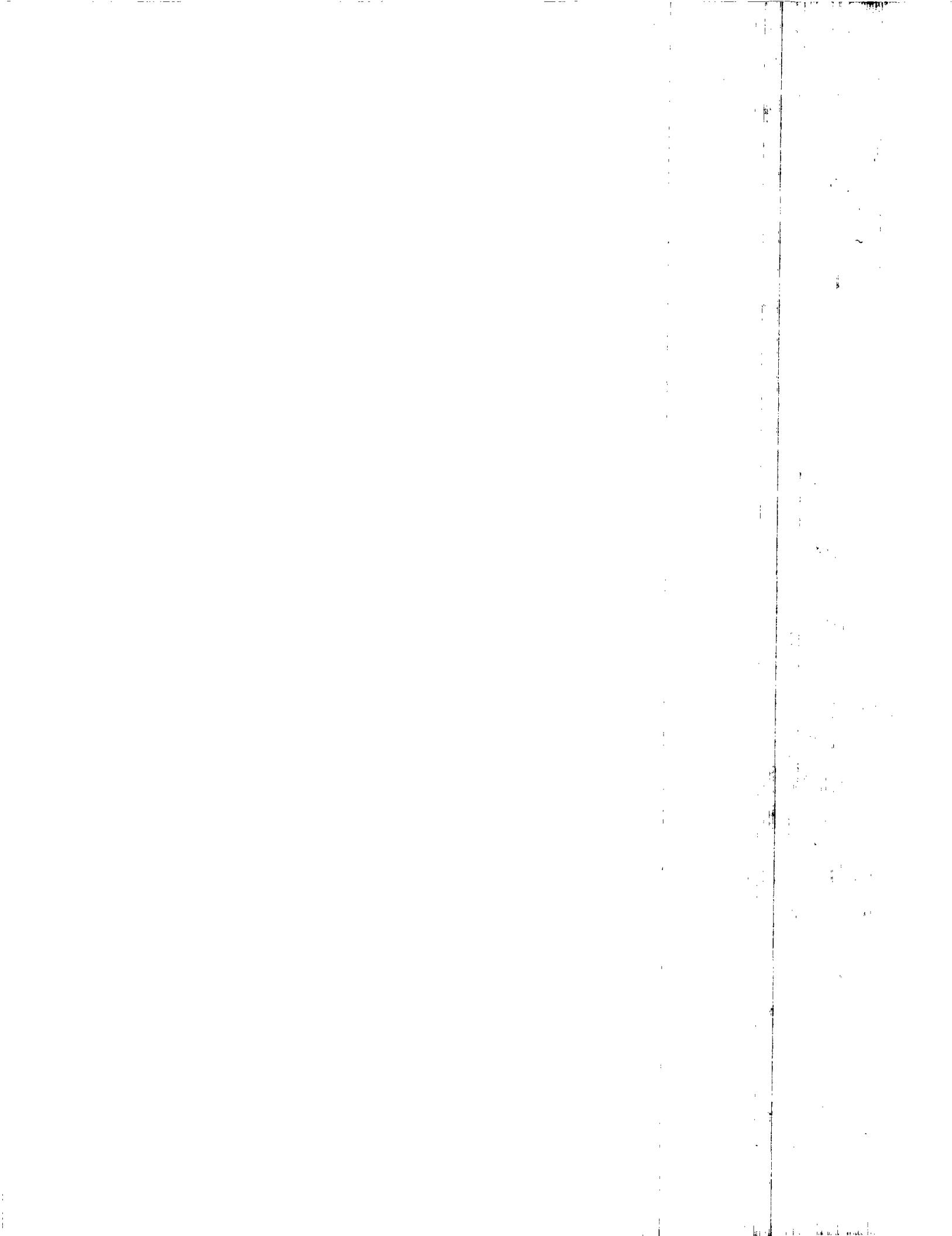
Source-Specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-3 –Sand Preparation abated by A-15 Baghouse #1

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
BAAQMD Particulate Matter (12/05/07)						
Regulation 6, Rule 1						
6-1-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr	CAM Condition #25039 Part 2	Visible Emissions (M22) P/W	Once every six months	Y
			CAM Condition #25039 Part 5	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039, Part 11	Source Test P/Every 5 years	Every 5 years	Y
6-1-305	Visible Particles	FILTERABLE PARTICULATE 0.15 gr/dscf	CAM Condition #25039 Part 2	Visible Emissions (M22) P/W	Once every six months	Y
			CAM Condition #25039 Part 5	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039, Part 11	Source Test P/every 5 years	Every 5 years	Y
6-1-310	Particulate Weight Limitation	FILTERABLE PARTICULATE 4.10P ^{.67} lb/hr where P is process weight, ton/hr	CAM Condition #25039 Part 2	Visible Emissions (M22) P/W	Once every six months	Y
			CAM Condition #25039 Part 5	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039, Part 11	Source Test P/Every 5 years	Every 5 years	Y
6-1-311	General Operations	FILTERABLE PARTICULATE 4.10P ^{.67} lb/hr where P is process weight, ton/hr	CAM Condition #25039 Part 2	Visible Emissions (M22) P/W	Once every six months	Y
			CAM Condition #25039 Part 5	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039, Part 11	Source Test P/Every 5 years	Every 5 years	Y
6-1-401	Appearance of Emissions					Y



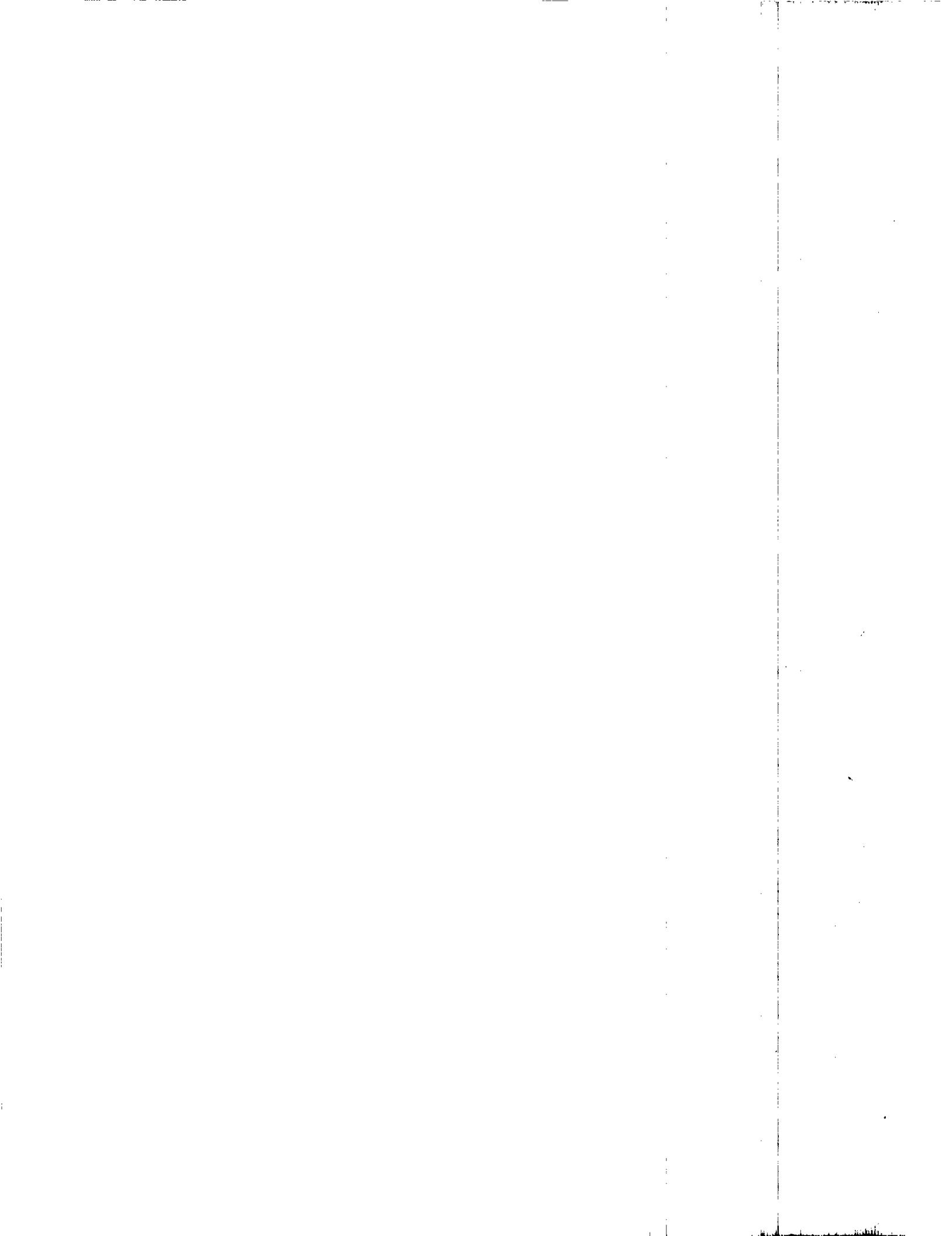
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-3 –Sand Preparation abated by A-15 Baghouse #1

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
6-1-601	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions					Y
SIP Regulation 6	Particulate Matter and Visible Emissions (09/04/98)					
6-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr	CAM Condition #25039 Part 2	Visible Emissions (M22) P/W	Once every six months	Y
6-305	Visible Particles		CAM Condition #25039 Part 5	Pressure drop monitoring P/D	Once every six months	Y
6-310	Particulate Weight Limitation	FILTERABLE PARTICULATE 0.15 gr/dscf	CAM Condition #25039 Part 2	Source Test P/Every 5 years	Every 5 years	Y
6-311	General Operations	4.10P ^{0.67} lb/hr. where P is process weight, ton/hr	CAM Condition #25039 Part 5	Visible Emissions (M22) P/W	Once every six months	Y



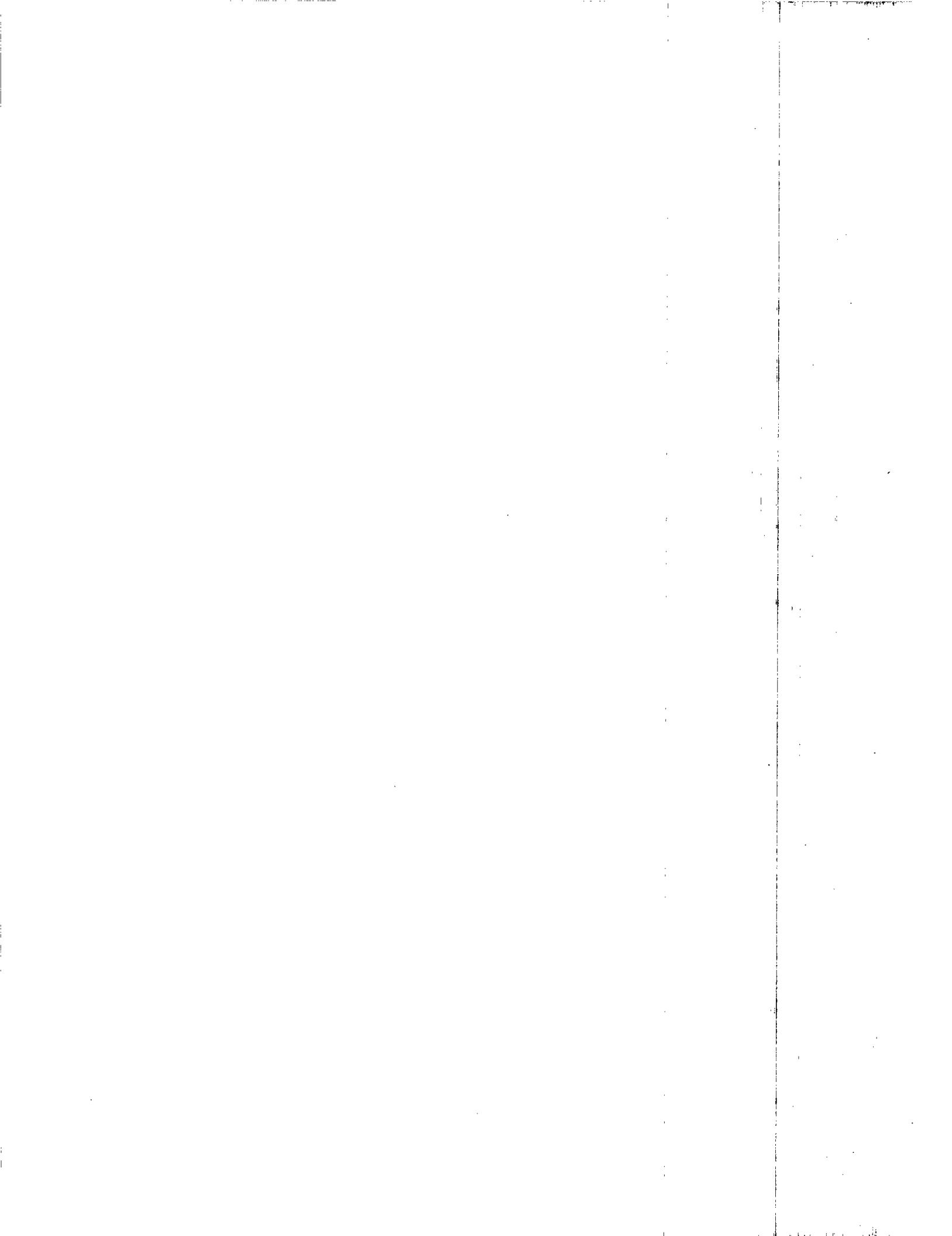
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-3 –Sand Preparation abated by A-15 Baghouse #1

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
6-401	Appearance of Emissions		CAM Condition #25039, Part 11	Source Test P/Every 5 years	Every 5 years	Y
6-601	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions					Y
BAAQMD Condition #2237						
Part 2	Abatement requirement with A-15 Baghouse # 1 (Basis: Cumulative Increase)					Y
Part 3	A-15 Baghouse #1 maintenance requirement (Basis: Cumulative Increase)					Y
Part 4	A-15 Baghouse #1 outlet grain loading limit (Basis: Cumulative Increase)	FILTERABLE PARTICULATE 0.04 grdsfc	BAAQMD Condition #2237, Part 6	Record keeping of Preventative Maintenance P/W	Once every six months	Y
Part 5	Monthly good iron casting production record keeping (Basis: Cumulative Increase, BAAQMD Regulation 2-6-501)	Sand throughput limit ≤ 572,000 tons/any consecutive 12-month period	CAM Condition #25039, Part 11	Source Test P/Every 5 years	Every 5 years	Y
Part 9	Sand throughput limit (Basis: Cumulative Increase)					Y
Part 10	Record keeping requirements (Basis: Regulation 2-1-403)					Y
CAM Condition #25039						
Part 1	Definition of exceedance: OPACITY Ringelmann 1.0 < 3 min/hr (Basis: 40 CFR Part 64.6(c)(2))					Y
Part 2	i) any visible emissions (M22); or ii) Pressure drop less than 2 inches or greater					Y



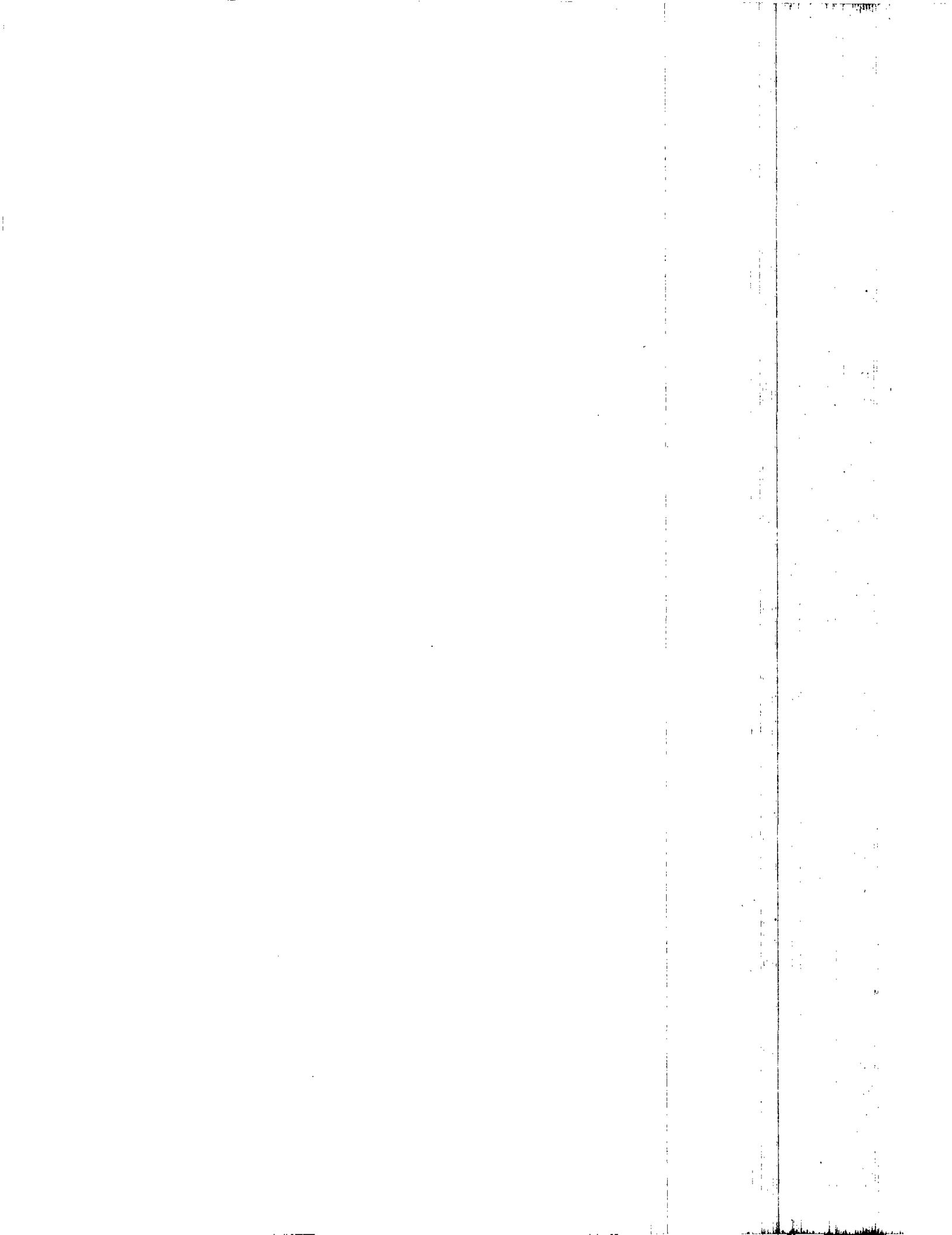
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-3 –Sand Preparation abated by A-15 Baghouse #1

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
	than 10 inches water column (Basis: 40 CFR Part 64.6(c)(2))					
Part 3	Pressure gauge installation requirement (Basis: 40 CFR Part 64.6(c)(1))					Y
Part 4	Indicator range for pressure gauges: 2 to 10 inches of water column (40 CFR Part 64.3(a)(2))					Y
Part 5	Pressure gauge reading - Daily (Basis: 40 CFR Part 64.6(c)(3); 40 CFR Part 64.3(b)(4)(iii))					Y
Part 6	Pressure gauge calibration (Basis: 40 CFR Part 64.3(b)(3) and (b)(2))					Y
Part 7	Procedures for excursion (Basis: 40 CFR Parts 64.6(c)(3), 64.7(d)(2), 64.8)					Y
Part 8	Method 9 observation requirement after 2 or more excursions at the same abatement device occur within 2 weeks (Basis: 40 CFR Part 64.6(c)(3); 40 CFR Part 64.3(b)(4)(iii))					Y
Part 9a	Reporting requirement – excursions, exceedances (Basis: 40 CFR Part 64.6(c)(3) and 40 CFR Part 64.9(a)(2))					Y
Part 9b	Reporting requirement – monitor downtime incidents (Basis: 40 CFR Part 64.6(c)(3) and 40 CFR Part 64.9(a)(2))					Y
Part 10	Inspection of baghouse (Basis: 40 CFR Part 64.6(c)(1)(iii))					Y
Part 11	Source test for compliance with SIP Regulation 6, sections 301, 310 and 311 – every 5 years (Basis: Regulation 2-1-403)					Y
Part 12	Recordkeeping requirements (Basis: Regulation 2-6-501 Recordkeeping)					Y
Part 13	Operation and Maintenance Plan (non-NESHAP) requirement – includes monitoring, inspection, maintenance, corrective action plan, recordkeeping (Basis: 40 CFR Part 64.6(c)(1)(iii))					Y



Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-4 – Wheelabrator Shot Blast (No. 1) abated by A-17 Baghouse #3 S-5 Pangborn Shot Blast (No. 2) abated by A-17 Baghouse #3
S-27 Wheelabrator Shot Blast (No. 3) abated by A-17 Baghouse #3 S-30 Inline Shot Blast abated by A-17 Baghouse #3

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
BAAQMD Regulation 6, Rule 1	Particulate Matter (12/05/07)					
6-1-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr	CAM Condition #25039 Part 2	Visible Emissions (M22) P/W	Once every six months Y	
			CAM Condition #25039 Part 5	Pressure drop monitoring P/D	Once every six months Y	
6-1-305	Visible Particles	FILTERABLE PARTICULATE 0.15 gr/dscf	CAM Condition #25039 Part 11	Source Test P/Every 5 years	Every 5 years Y	
6-1-310	Particulate Weight Limitation		CAM Condition #25039 Part 5	Visible Emissions (M22) P/W	Once every six months Y	
			CAM Condition #25039 Part 5	Pressure drop monitoring P/D	Once every six months Y	
6-1-311	General Operations	FILTERABLE PARTICULATE 4.10P ^{0.67} lb/hr where P is process weight, ton/hr	CAM Condition #25039 Part 11	Source Test P/Every 5 years	Every 5 years Y	
			CAM Condition #25039 Part 5	Visible Emissions (M22) P/W	Once every six months Y	
			CAM Condition #25039 Part 5	Pressure drop monitoring P/D	Once every six months Y	
			CAM Condition #25039 Part 11	Source Test P/Every 5 years	Every 5 years Y	



Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-4 – Wheelabrator Shot Blast (No. 1) abated by A-17 Baghouse #3 S-5 Pangborn Shot Blast (No. 2) abated by A-17 Baghouse #3
S-27 Wheelabrator Shot Blast (No. 3) abated by A-17 Baghouse #3 S-30 Inline Shot Blast abated by A-17 Baghouse #3

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
6-1-401	Appearance of Emissions					Y
6-1-601	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions					Y
SIP Regulation 6	Particulate Matter and Visible Emissions (09/04/98)					
6-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr	CAM Condition #25039 Part 2	Visible Emissions (M22) P/W	Once every six months	Y
			CAM Condition #25039 Part 5	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039, Part 11	Source Test P/Every 5 years	Every 5 years	Y
6-305	Visible Particles	FILTERABLE PARTICULATE 0.15 gr/dscf	CAM Condition #25039 Part 2	Visible Emissions (M22) P/W	Once every six months	Y
6-310	Particulate Weight Limitation		CAM Condition #25039 Part 5	Pressure drop monitoring P/D	Once every six months	Y
			CAM Condition #25039, Part 11	Source Test P/Every 5 years	Every 5 years	Y
6-311	General Operations	FILTERABLE PARTICULATE 4.10P0.67 lb/hr. where P is process weight, ton/hr	CAM Condition #25039 Part 2	Visible Emissions (M22) P/W	Once every six months	Y
			CAM Condition #25039 Part 5	Pressure drop monitoring P/D	Once every six months	Y
			CAM	Source Test	Every 5 years	Y

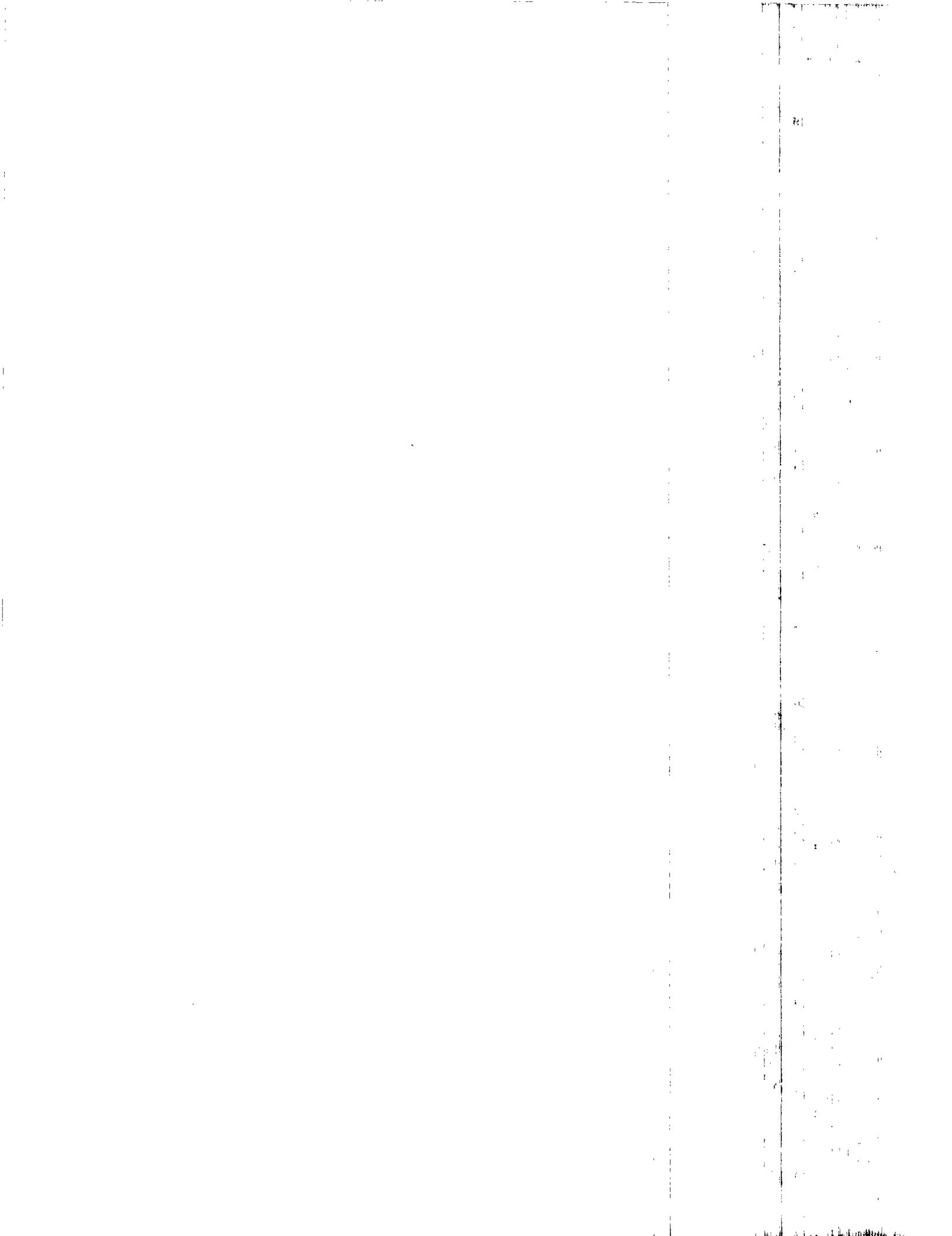
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-4 – Wheelabrator Shot Blast (No. 1) abated by A-17 Baghouse #3 S-5 Pangborn Shot Blast (No. 2) abated by A-17 Baghouse #3
S-27 Wheelabrator Shot Blast (No. 3) abated by A-17 Baghouse #3 S-30 Inline Shot Blast abated by A-17 Baghouse #3

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
6-401	Appearance of Emissions		Condition #25039, Part 11	P/Every 5 years		Y
6-501	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions					Y
BAAQMD Condition #10139						
Part 1	S-27 Wheelabrator Shot Blast (No. 3) shot throughput limit (Basis: Cumulative Increase) Abatement requirement with A-17 Baghouse #3 (Basis: Cumulative Increase)	≤ 36 tons/any consecutive 12-month period	BAAQMD Condition #10139, Part 5	Record keeping P/M	Once every six months	Y
Part 2	S-27 throughput record keeping (Basis: Cumulative Increase, BAAQMD Regulation 2-6-501)					Y
Part 5	S-4 – Wheelabrator Shot Blast (No.1) shot throughput limit (Basis: Regulation 2-1-403)	≤ 4,600 tons/any consecutive 12-month period	BAAQMD Condition #10139, Part 8	Record keeping P/M	Once every six months	Y
Part 6	S-5 Pangborn Shot Blast (No. 2) shot throughput limit (Basis: Regulation 2-1-403) Record keeping requirements (Basis: Regulation 2-1-403)	≤2,800 tons/any consecutive 12-month period	BAAQMD Condition #10139, Part 8	Record keeping P/M	Once every six months	Y
Part 7	S-30 Blast Cleaning Machine blast media throughput limit (Basis: Cumulative Increase)	≤ 105 tons/any consecutive 12-month period	BAAQMD Condition #13298 Part 3	Record keeping P/M	Once every six months	Y
BAAQMD Condition #13298						
Part 1	S-30 Blast Cleaning Machine blast media throughput limit (Basis: Cumulative Increase) Abatement requirement with A-17 Baghouse #3 (Basis: Cumulative Increase)					Y
Part 2	Record keeping requirements					Y
Part 3						Y



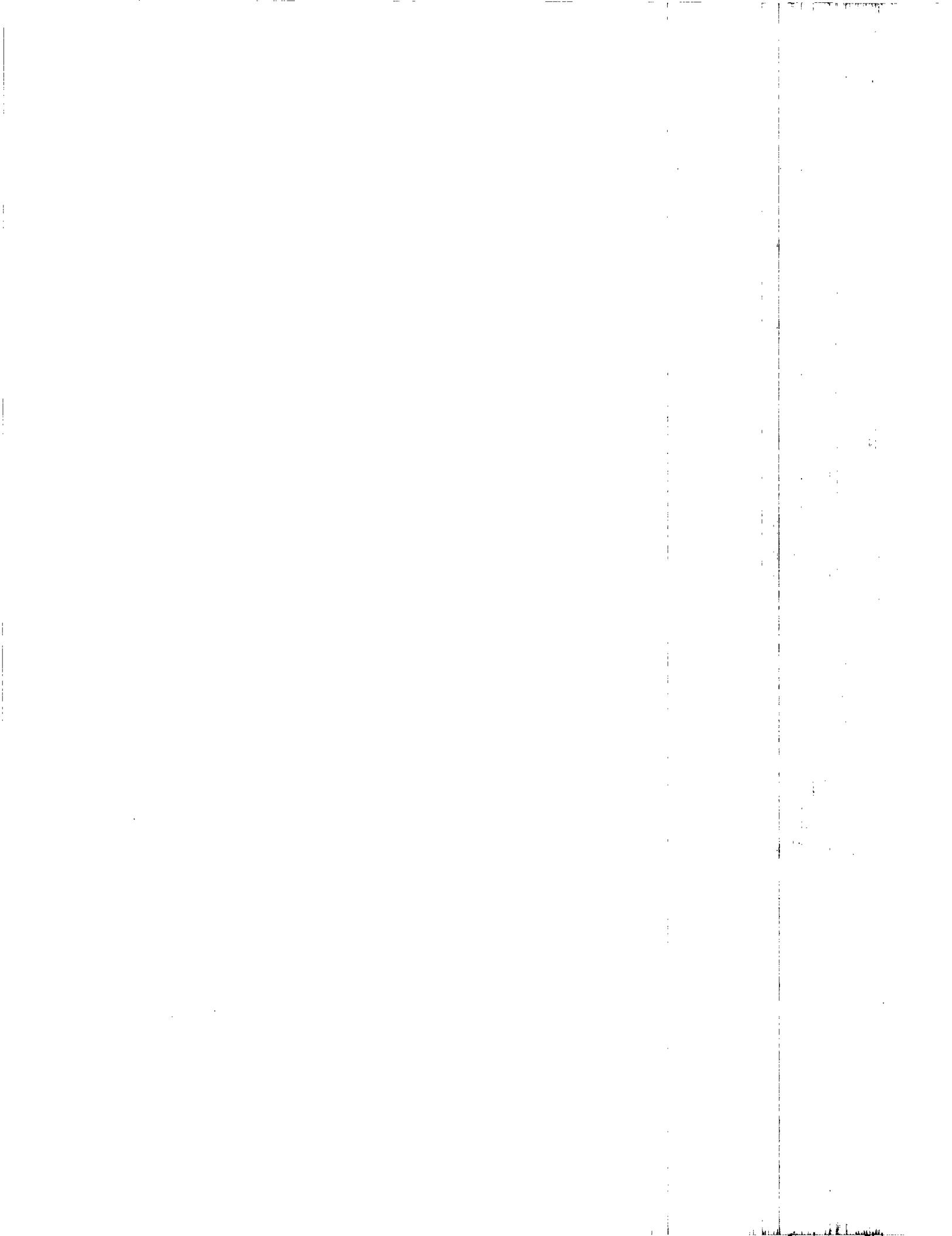
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-4 – Wheelabrator Shot Blast (No. 1) abated by A-17 Baghouse #3 S-5 Pangborn Shot Blast (No. 2) abated by A-17 Baghouse #3
S-27 Wheelabrator Shot Blast (No. 3) abated by A-17 Baghouse #3 S-30 Inline Shot Blast abated by A-17 Baghouse #3

Applicable Requirement	Regulation Title or Description of Requirement (Basis: Regulation 2-1-403)	Limit	Monitoring Citation Frequency	Monitoring & Frequency	Reporting	Compliance (Y / N)
CAM Condition #25039						
Part 1	Definition of exceedance: OPACITY Ringelmann 1.0 < 3 min/hr (Basis: 40 CFR Part 64.6(c)(2))					Y
Part 2	Definitions of excursion: i) any visible emissions (M2); or iii) Pressure drop less than 2 inches or greater than 10 inches water column (Basis: 40 CFR Part 64.6(c)(2))					Y
Part 3	Pressure gauge installation requirement (Basis: 40 CFR Part 64.6(c)(1))					Y
Part 4	Indicator range for pressure gauges: 2 to 10 inches of water column (40 CFR Part 64.3(a)(2))					Y
Part 5	Pressure gauge reading - Daily (Basis: 40 CFR Part 64.6(c)(3); 40 CFR Part 64.3(b)(4)(iii))					Y
Part 6	Pressure gauge calibration (Basis: 40 CFR Part 64.3(b)(3) and (b)(2))					Y
Part 7	Procedures for excursion (Basis: 40 CFR Parts 64.6(c)(3), 64.7(d)(2), 64.8)					Y
Part 8	Method 9 observation requirement after 2 or more excursions at the same abatement device occur within 2 weeks (Basis: 40 CFR Part 64.6(c)(3); 40 CFR Part 64.3(b)(4)(iii))					Y
Part 9a	Reporting requirement – excursions,					Y



Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-4 – Wheelabrator Shot Blast (No. 1) abated by A-17 Baghouse #3 S-5 Pangborn Shot Blast (No. 2) abated by A-17 Baghouse #3
S-27 Wheelabrator Shot Blast (No. 3) abated by A-17 Baghouse #3 S-30 Inline Shot Blast abated by A-17 Baghouse #3

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
	exceedances (Basis: 40 CFR Part 64.6(c)(3) and 40 CFR Part 64.9(a)(2))					
Part 9b	Reporting requirement – monitor downtime incidents (Basis: 40 CFR Part 64.6(c)(3) and 40 CFR Part 64.9(a)(2))					Y
Part 10	Inspection of baghouse (Basis: 40 CFR Part 64.6(c)(1)(iii))					Y
Part 11	Source test for compliance with SIP Regulation 6, sections 301, 310 and 311 – every 5 years (Basis: Regulation 2-1-403)					Y
Part 12	Recordkeeping requirements (Basis: Regulation 2-6-501 Recordkeeping)					Y
Part 13	Operation and Maintenance Plan (non-NESHAP) requirement – includes monitoring, inspection, maintenance, corrective action plan, recordkeeping (Basis: 40 CFR Part 64.6(c)(1)(iii))					Y

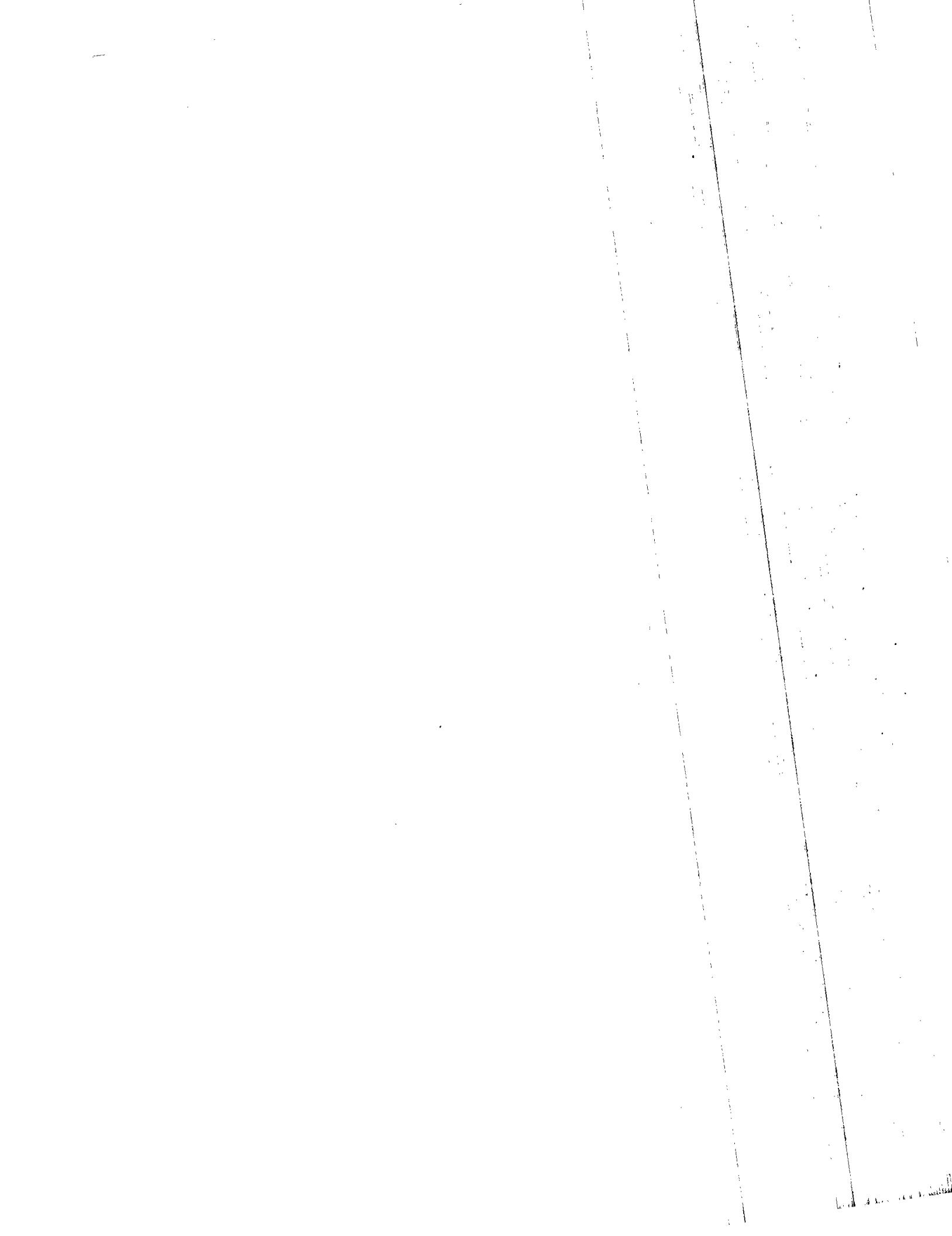


Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-25 Holding Furnace abated by A-25 Fume Baghouse

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
BAAQMD Regulation 6, Rule 1	Particulate Matter (1205/07)					
6-1-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr	BAAQMD Condition #9668, Part 3	Bag leak detector C	Once every six months	Y
			BAAQMD Condition #9668, Part 8	Source Test P/Every 5 years	Every 5 years	Y
			BAAQMD Condition #9668, Part 5	Record keeping of preventative maintenance P/W	Once every six months	Y
6-1-305	Visible Particles	FILTERABLE PARTICULATE 0.15 gr/dscf	BAAQMD Condition #9668, Part 3	Bag leak detector C	Once every six months	Y
			BAAQMD Condition #9668, Part 8	Source Test P/Every 5 years	Every 5 years	Y
			BAAQMD Condition #9668, Part 5	Record keeping of preventative maintenance P/W	Once every six months	Y
6-1-310	Particulate Weight Limitation	FILTERABLE PARTICULATE weight, ton/hr	BAAQMD Condition #9668, Part 3	Bag leak detector C	Once every six months	Y
			BAAQMD Condition #9668, Part 8	Source Test P/Every 5 years	Every 5 years	Y
			BAAQMD Condition #9668, Part 5	Record keeping of preventative maintenance P/W	Once every six months	Y
6-1-311	General Operations	4.10 ^{0.67} lb/hr where P is process weight, ton/hr	BAAQMD Condition #9668, Part 3	Bag leak detector C	Once every six months	Y
			BAAQMD Condition #9668, Part 8	Source Test P/Every 5 years	Every 5 years	Y
			BAAQMD Condition #9668, Part 5	Record keeping of preventative maintenance P/W	Once every six months	Y
6-1-401	Appearance of Emissions					Y

Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-25 Holding Furnace abated by A-25 Fume Baghouse

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
6-1-601	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions					Y
SIP Regulation 6	Particulate Matter and Visible Emissions (090498)					
6-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr	BAAQMD Condition #9668, Part 3	Bag leak detector Once every six months C	Y	
			BAAQMD Condition #9668, Part 8	Source Test P/Every 5 years	Y	
			BAAQMD Condition #9668, Part 5	Record keeping of preventative maintenance P/W	Once every six months	Y
6-305	Visible Particles	FILTERABLE PARTICULATE 0.15 gr/dscf	BAAQMD Condition #9668, Part 3	Bag leak detector Once every six months C	Y	
6-310	Particulate Weight Limitation		BAAQMD Condition #9668, Part 8	Source Test P/Every 5 years	Every 5 years	Y
			BAAQMD Condition #9668, Part 5	Record keeping of preventative maintenance P/W	Once every six months	Y
6-311	General Operations	FILTERABLE PARTICULATE 4.10P0.67 lb/hr. where P is process weight, ton/hr	BAAQMD Condition #9668, Part 3	Bag leak detector Once every six months C	Y	
			BAAQMD Condition #9668, Part 8	Source Test P/Every 5 years	Every 5 years	Y
			BAAQMD Condition #9668, Part 5	Record keeping of preventative maintenance	Once every six months	Y



Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-25 Holding Furnace abated by A-25 Fume Baghouse

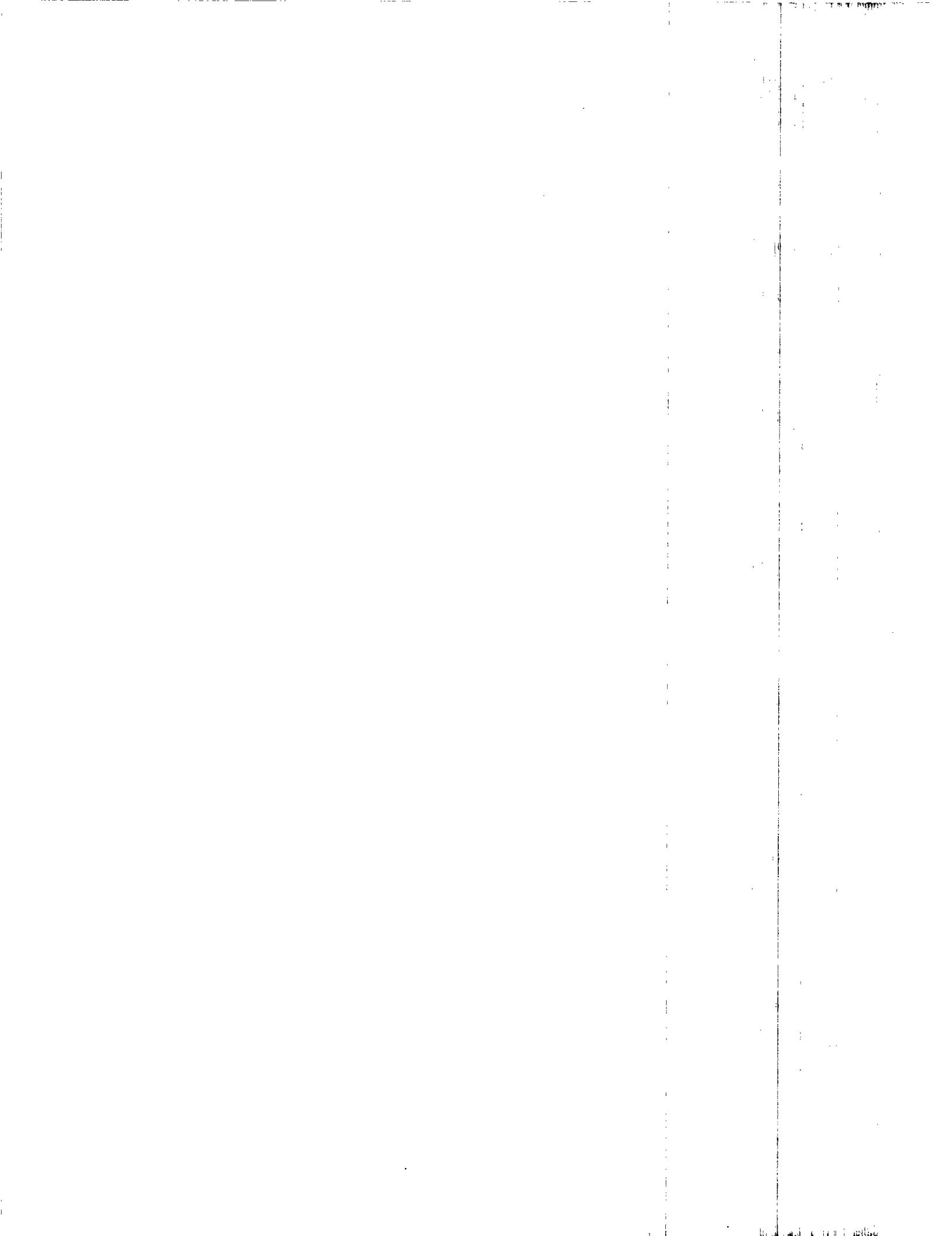
Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
6-401	Appearance of Emissions			P/W		Y
6-601	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions					Y
BAAQMD Condition #9668						N – Refer to Title V Monitoring Deviation Report included in Section 2 of the Combined Semi-Annual Report
Part 1	Abatement requirement (basis: cumulative increase)					
Part 2	Baghouse maintenance requirement (basis: cumulative increase)			BAAQMD Condition #9668, Part 5	Preventative maintenance record keeping Once every six months	Y
Part 3	Broken bag leak detector requirement (basis: cumulative increase)			P/W		Y
Part 4	A-25 outlet grain loading limit (basis: cumulative increase)	PM10 0.002 gr/dscf		BAAQMD Condition #9668, Part 3	Bag leak detector Once every six months	Y
Part 5	Weekly records of preventive maintenance inspections of A-25 Fume Baghouse (basis:BAAQMD Regulation 6-1-301, BAAQMD Regulation 2-6-501)			C		Y
Part 6	Gray iron throughput limit (basis: Regulation 2-1-403)	≤ 172,000 ton/any consecutive 12-month period		BAAQMD Condition #9668, Part 7	Record keeping P/M Once every six months	Y
Part 7	Gray iron throughput record keeping requirement					Y
Part 8	Source testing requirement for PM and opacity					Y

**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-28 Storage Silo (Baghouse Dust) abated by A-19 Cupola Baghouse**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
BAAQMD Regulation 6, Rule 1	Particulate Matter (12/05/07)					
6-1-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr	63.7740(b); CAM Condition #25039, Part 15	Bag leak detector C	Once every six months	Y
			CAM Condition #25039, Part 21	Pressure drop monitoring P/D	Once every six months	Y
			BAAQMD Condition #9351, Part 11; CAM Condition #25039, Part 27	Source Test P/E Every 5 years	Every 5 years	Y
6-1-305	Visible Particles	FILTERABLE PARTICULATE 0.15 g/dscf	63.7740(b); CAM Condition #25039, Part 15	Bag leak detector C	Once every six months	Y
6-1-310	Particulate Weight Limitation		CAM Condition #25039, Part 21	Pressure drop monitoring P/D	Once every six months	Y
			BAAQMD Condition #9351, Part 11; CAM Condition #25039, Part 27	Source Test P/E Every 5 years	Every 5 years	Y
6-1-311	General Operations	FILTERABLE PARTICULATE 4.10P0.67 lb/hr. where P is process weight, ton/hr	63.7740(b); CAM Condition #25039, Part 15	Bag leak detector C	Once every six months	Y
			CAM Condition #25039, Part 21	Pressure drop monitoring P/D	Once every six months	Y

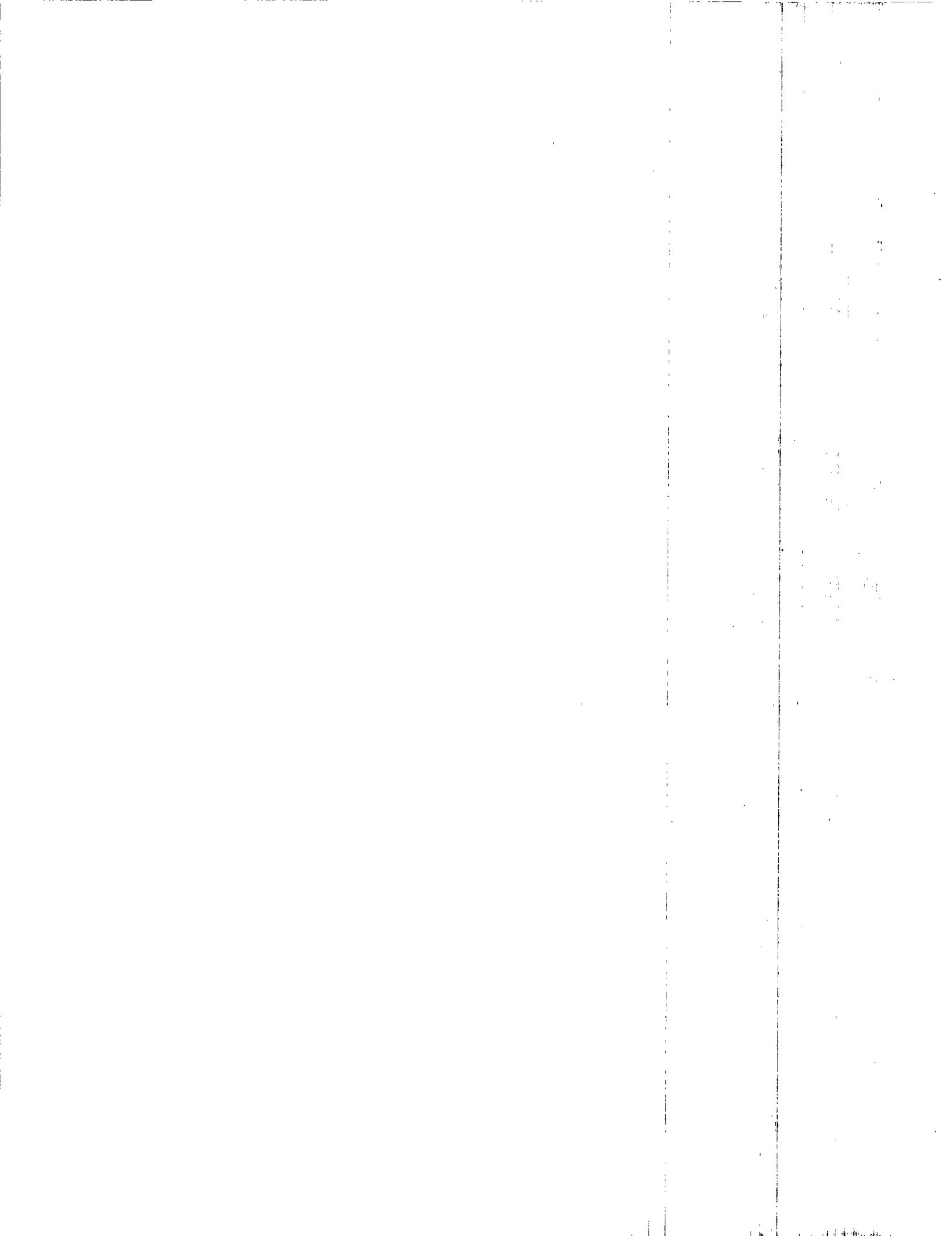
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-28 Storage Silo (Baghouse Dust) abated by A-19 Cupola Baghouse

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
			BAAQMD Condition #9351, Part 11; CAM Condition #25039, Part 27	Source Test P/Every 5 years	Every 5 years	Y
6-1-401	Appearance of Emissions					Y
6-1-601	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions					Y
SIP Regulation 6	Particulate Matter and Visible Emissions (09/04/98)					
6-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr	63.7740(b); CAM Condition #25039, Part 15	Bag leak detector C	Once every six months	Y
			CAM Condition #25039, Part 21	Pressure drop monitoring P/D	Once every six months	Y
			BAAQMD Condition #9351, Part 11; CAM Condition #25039, Part 27	Source Test P/Every 5 years	Every 5 years	Y
6-305	Visible Particles		63.7740(b); CAM Condition #25039, Part 15	Bag leak detector C	Once every six months	Y
6-310	Particulate Weight Limitation	FILTERABLE PARTICULATE 0.15 gr/dscf	CAM Condition #25039, Part 21	Pressure drop monitoring P/D	Once every six months	Y
			BAAQMD Condition #9351, Part 11; P/Every 5 years	Source Test	Every 5 years	Y



**Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-28 Storage Silo (Baghouse Dust) abated by A-19 Cupola Baghouse**

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
		CAM Condition #25039, Part 27				
6-311	General Operations	FILTERABLE PARTICULATE weight, ton/hr 4.10P0.67 lb/hr. where P is process weight, ton/hr	63.7740(b); CAM Condition #25039, Part 15	Bag leak detector C	Once every six months	Y
		CAM Condition #25039, Part 21	Pressure drop monitoring P/D	Once every six months	Y	
		BAAQMD Condition #9351, Part 11; CAM Condition #25039, Part 27	Source Test P/E Every 5 years	Every 5 years	Y	
6-401	Appearance of Emissions Particulate Matter, Sampling Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions				Y	
BAAQMD Condition #10762						
Part 1	Abatement requirement with A-19 (Basis: Cumulative Increase) Throughput limit (basis: Regulation 2-1-403)	Throughput 1500 ton/ any consecutive 12-month period	BAAQMD Condition #10762, Part 7	Record keeping P/M	Once every six months	Y
Part 6	Record keeping requirements (Basis: Regulation 2-1-403)					Y
Part 7						Y

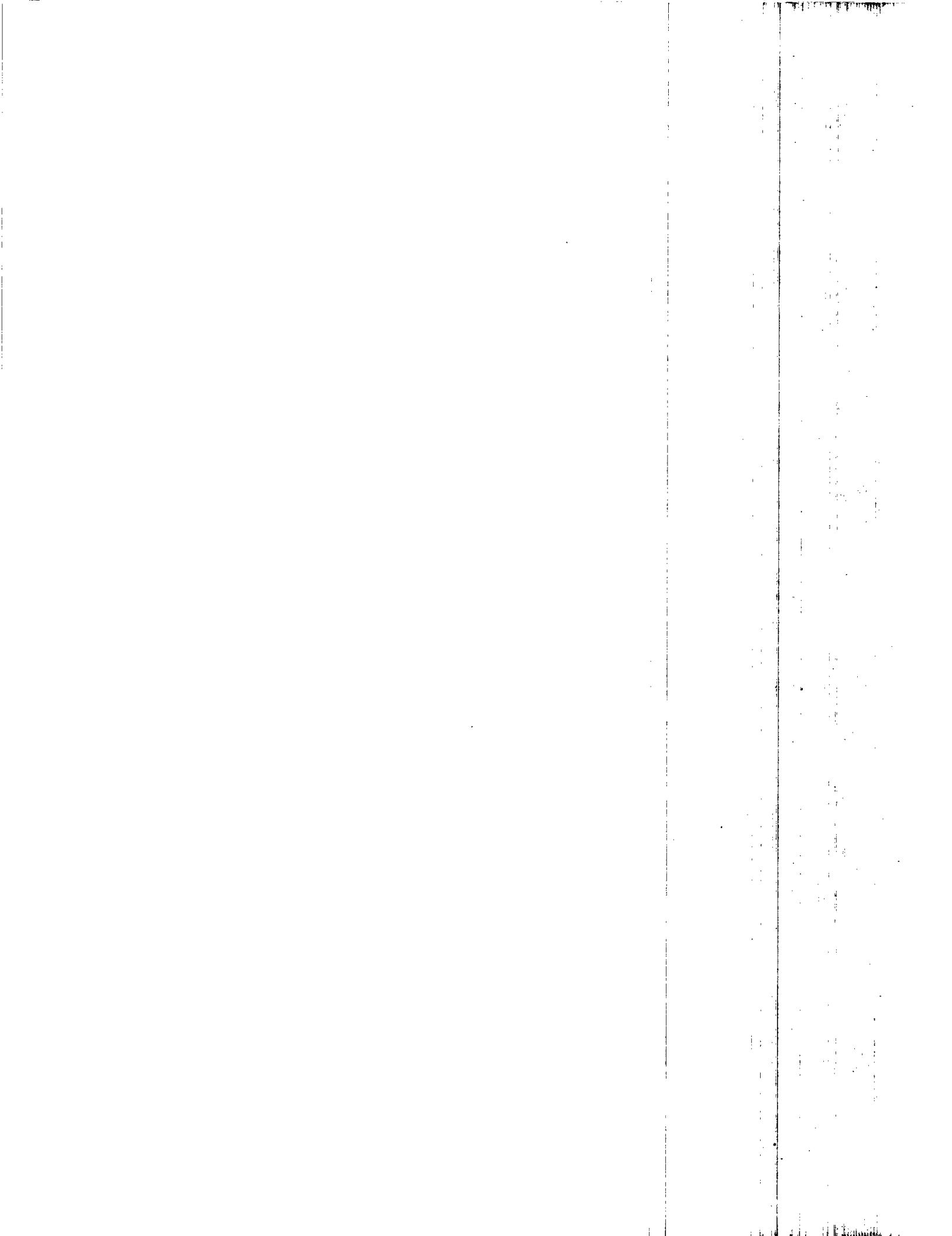


Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-31 Emergency Standby Diesel Generator

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
BAAQMD Regulation 6, Rule 1	Particulate Matter (12/05/07)	OPACITY	Ringelmann 2.0 for < 3 min/hr	N		Y
6-1-303.1	Ringelmann Number 2 Limitation					
6-1-305	Visible Particles					Y
6-1-310	Particulate Weight Limitation					Y
6-1-401	Appearance of Emissions					Y
SIP Regulation 6	Particulate Matter and Visible Emissions (09/04/98)	OPACITY	Ringelmann 2.0 for < 3 min/hr	N		Y
6-303.1	Ringelmann Number 2 Limitation					
6-305	Visible Particles					Y
6-310	Particulate Weight Limitation					Y
6-401	Appearance of Emissions					Y
BAAQMD Regulation 9, Rule 1	Inorganic Gaseous Pollutants: Sulfur Dioxide (3/15/1995)	SO ₂	< 0.5 ppm continuously for 3 consecutive minutes or 0.25 ppm averaged over 60 consecutive minutes, or 0.05 ppm averaged over 24 hours.	N		Y
9-1-301	Ground Level Concentration					
9-1-304	Fuel Burning (Liquid and Solid Fuels)	Sulfur content of liquid fuel ≤ 0.5% by weight		N		Y
9-1-602	Sulfur Content of Fuels					Y
AQMD Regulation 9, Rule 8	Inorganic Gaseous Pollutants: NO_x and CO from Stationary Internal Combustion Engines (7/25/2007)					
9-8-110.5	Exemption Emergency Standby engines					Y
9-8-330	Emergency Standby Engines, Hours of Operation					Y

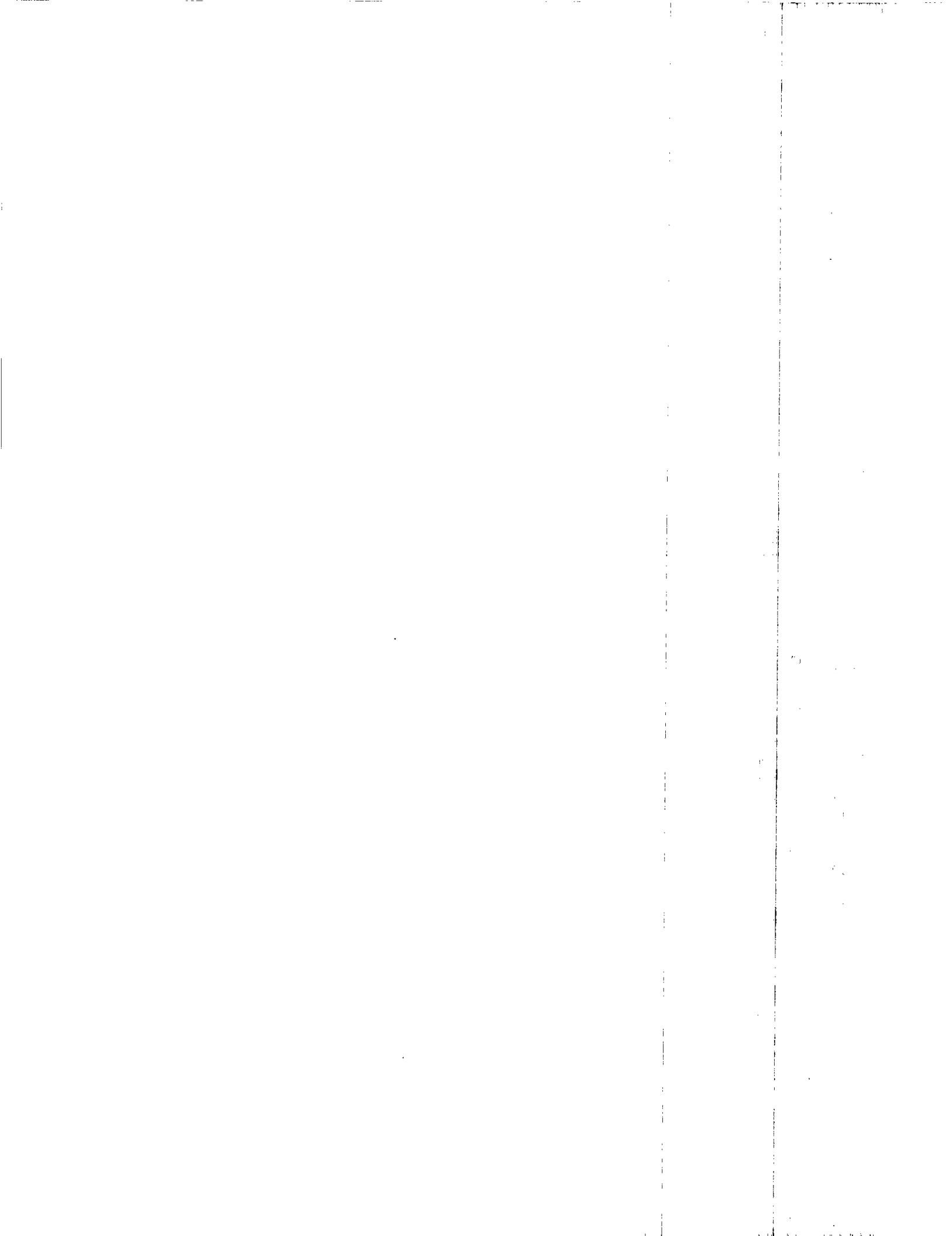
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-31 Emergency Standby Diesel Generator

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
9-8-330.1	Emergency Standby Engines, Hours of Operation	Unlimited hours for emergency use	BAAQMD Condition #19947, part 1	Log/Record Keeping P/M	Once every six months	Y
9-8-330.2	Emergency Standby Engines, Hours of Operation (until 1/01/2012)	Reliability-related activities limited to 100 hours per calendar year	BAAQMD Condition #19947, part 1	Log/Record Keeping P/M	Once every six months	Y
9-8-330.3	Emergency Standby Engines, Hours of Operation (effective 1/01/2012)	Reliability-related activities limited to 50 hours per calendar year	BAAQMD Condition #19947, part 1	Log/Record Keeping P/M	Once every six months	Y
SIP Regulation 9, Rule 8	Emergency Standby Engines, Monitoring and Recordkeeping					Y
9-8-101	Inorganic Gaseous Pollutants: NOx and CO from Stationary Internal Combustion Engines (12/15/1997)					Y
40 CFR Part 63, Subpart ZZZZ	National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (3/09/11)					Y
63.6580	What is the purpose of subpart ZZZZ?					Y
63.6585(a), (b)	Am I subject to this subpart? – stationary RICE located at a major source of HAPs					Y
63.6590(a)(1) (i)	What parts of my plant does this subpart cover? – existing stationary RICE > 500hp at a major source of HAPs and commenced construction prior to December 19, 2002 (initial operation 2/15/2001)					Y
63.6590(b)(3) (iii)	Stationary RICE subject to limited requirements –existing emergency stationary RICE > 500hp located at a major source of HAP emissions.					Y



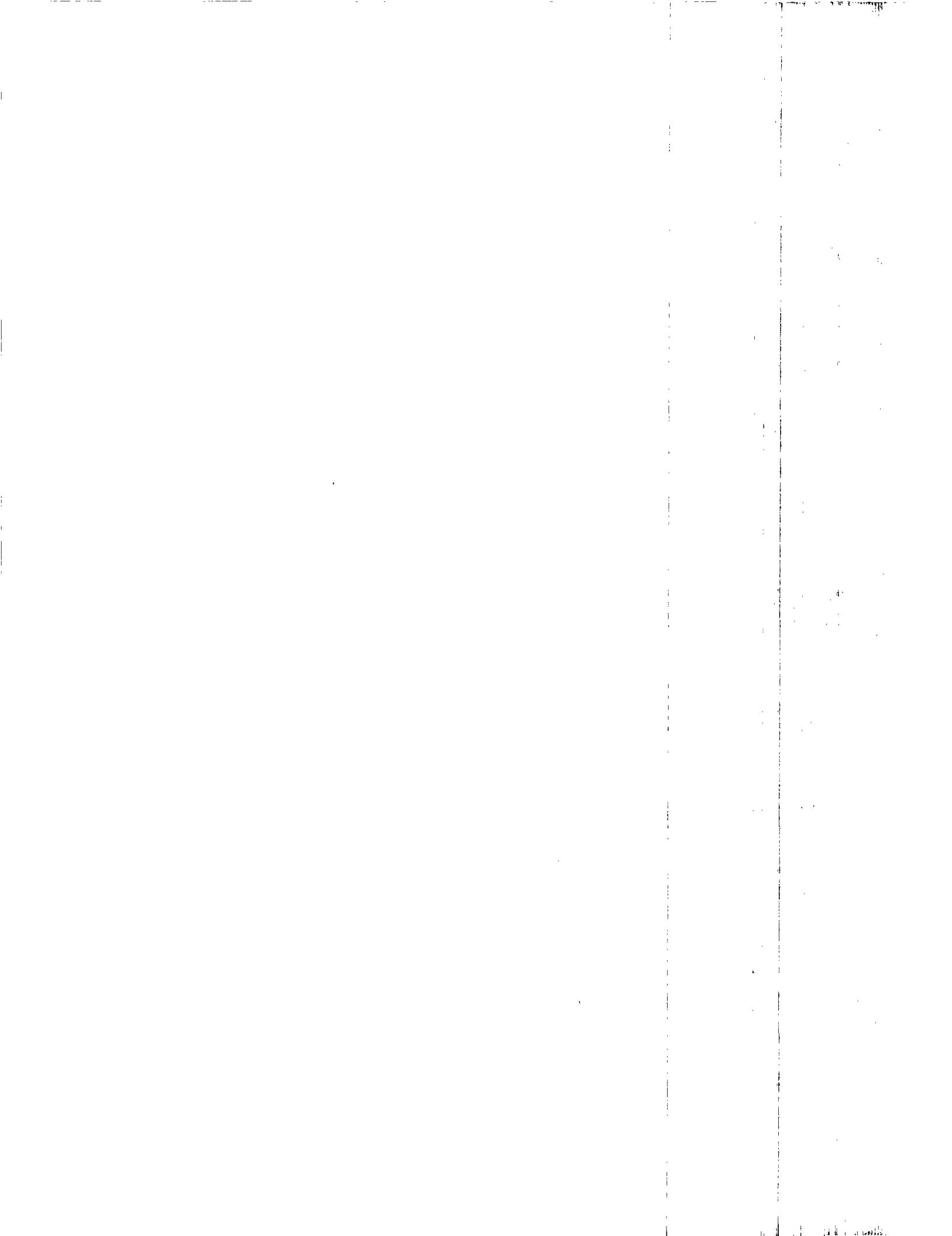
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-31 Emergency Standby Diesel Generator

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
	Exemption from requirements of this subpart and of subpart A of this part					
	Emission limitations – stationary RICE > 500hp located at a major source of HAPs					
63.6600(c)	Exemption from emission limitations in Tables 1a, 2a, 2c, 2d, and operating limitations in Tables 1b, 2b– emergency stationary RICE > 500hp located at a major source of HAPs					
63.6625	What are my monitoring, installation, collection, operation, and maintenance requirements?					
	None for existing emergency stationary RICE > 500hp located at a major source of HAP emissions					
63.6640(e)	Continuous compliance demonstration					
	Exemption – emergency stationary RICE > 500hp located at a major source of HAPs					
63.6640(f)(2)(2)	Requirements for emergency stationary RICE > 500hp located at a major source of HAPs installed before June 12, 2006					
63.6640(f)(2)(i)	No limit on emergency use					
63.6640(f)(2)(ii)	Maintenance and readiness testing operation recommended by manufacturer/vendor/insurance company – minimize, but no limit					
63.6640(f)(2)(iii)	Additional 50 hours operation for non-emergency situations (not for peak shaving or to generate income)		HOURS OF OPERATION – non-emergency, non-maintenance and testing 50 hours/year			
63.6645(a)(5)	What notifications must I submit and when?					



Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-31 Emergency Standby Diesel Generator

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
	Exemption for existing stationary emergency RICE					
63.6655(e)(2)	What records must I keep? – maintenance records demonstrating operation and maintenance according to your maintenance plan				Y	Y
	In what form and how long must I keep my records?				Y	
63.6660	63.10(b)(1) format; 5 years				Y	
63.6665	What General Provisions apply to me? Exemption – emergency stationary RICE > 500hp located at a major source of HAPs except initial notification				Y	
63.6670	Who implements and enforces this subpart?				Y	
63.6675	What definitions apply to this subpart?				Y	
BAAQMD Condition # 19947						
Part 1	10.6 hours of reliability related testing and unlimited hours of emergency standby power [Basis: Regulation 2, Rule 5; "Stationary Diesel Engine ATCM" CA Code of Regulations, Title 17, section 93115.6(b)(3)(A)(1)(a)] Operating conditions Basis: [BAAQMD Regulation 9-8-330, "Stationary Diesel Engine ATCM" CA Code of Regulations, Title 17, section 93115.6(b)(3)(A)(1)(a)]	10.6 hours/year	BAAQMD Condition # 19947, Part 4	Log/Record keeping P/M	Every six months	Y
Part 2						Y

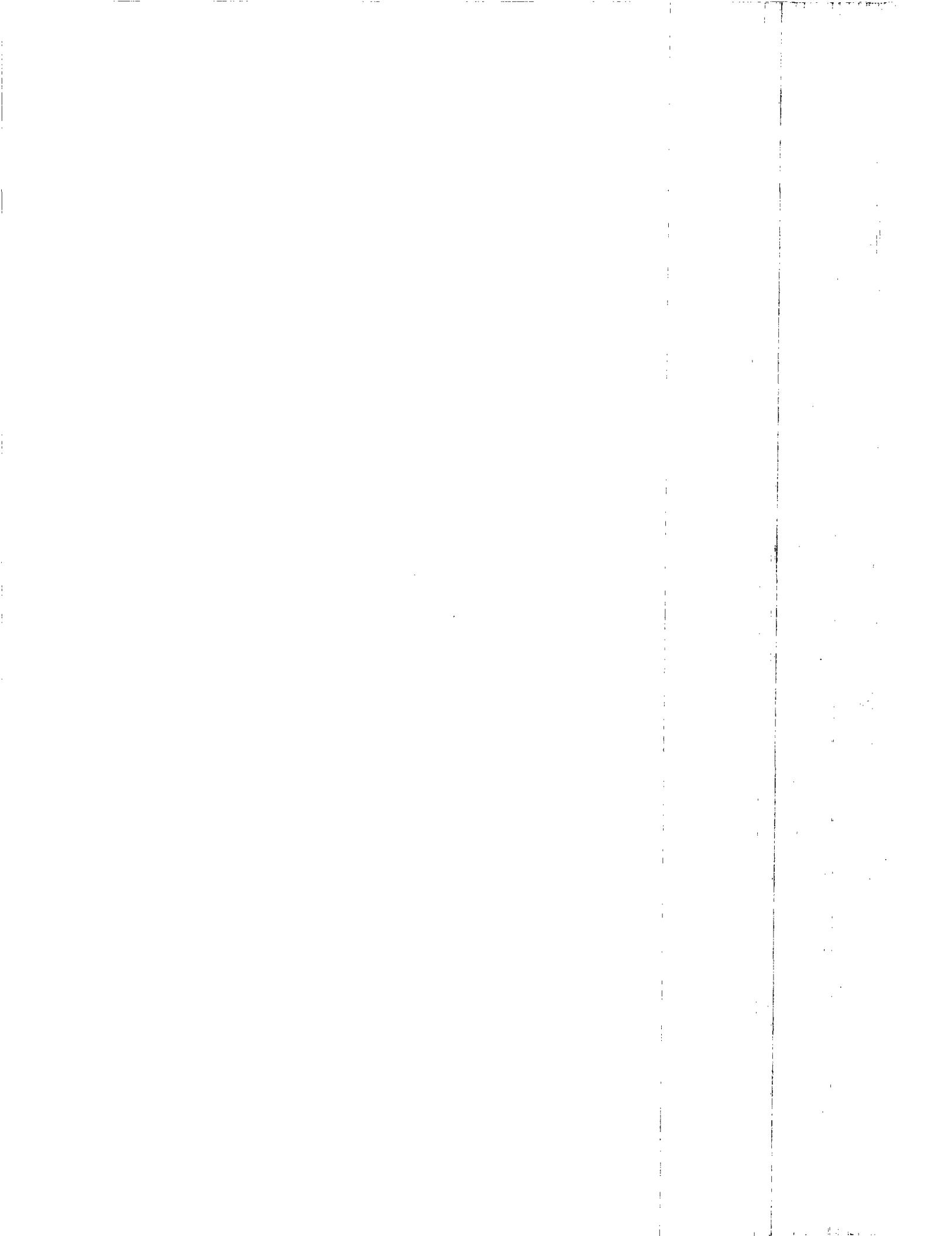


Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-31 Emergency Standby Diesel Generator

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
Part 3	Installation of a non-resettable totalizing hour meter [Basis: BAAQMD Regulation 9-8-530, "Stationary Diesel Engine ATCM" CA Code of Regulations, Title 17, section 93115.10(e)(1)]					Y
Part 4	Record keeping requirements [Basis: BAAQMD Regulation 9-8530, 2-6- 501, "Stationary Diesel Engine ATCM" CA Code of Regulations, Title 17, section 93115.10(g)]					Y

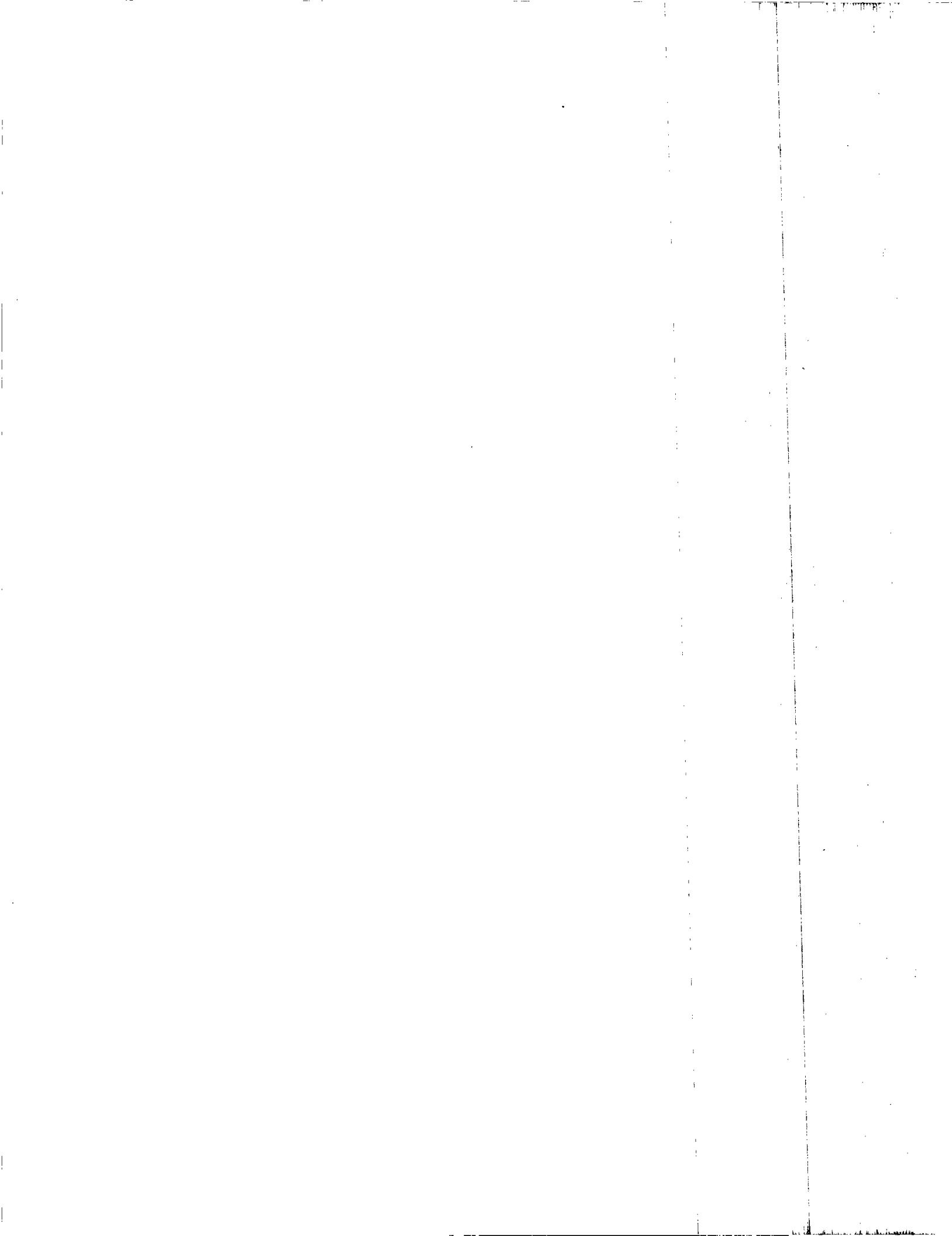
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-32 Flow Jet Pipe Labeler

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
BAAQMD Regulation 8, Rule 4	General Solvent and Surface Coating Operations (10/16/02)					
8-4-302.3	Solvents and Surface Coating Requirements	VOC content of coatings ≤ 3.5 lb/gallon of coating as applied	BAAQMD Condition #21322, Part 4	Record keeping P/M	Once every six months	Y
8-4-312	Solvent Evaporative Loss Minimization					Y
8-4-501	Record keeping requirements					Y
8-4-603	Analysis of Samples					Y
BAAQMD Regulation 8, Rule 19	Surface Preparation and Coating of Miscellaneous Metal Parts and Products (10/16/02)					
8-19-117	Exemption, Stencil Coatings					Y
NESHAP 40 CFR Part 63, Subpart MMMM	National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products (04/20/06)					
63.3880	What is the purpose of this subpart?					Y
63.3881(a),(b)	Am I subject to this subpart? – facility					Y
63.3882(a), (b)(1)	What parts of my plant does this subpart cover? – coating operation					Y
63.3883(b)	Initial compliance date (January 2, 2007)					Y
63.3890(b)(1)	Emission limit – existing facility general use coating	Organic HAP ≤ 2.6 lb/gal of coating solids used during each 12-month compliance period	\$63.3930	P/M	Every six months	Y
63.3891(a)	Emission limit option – compliant material option	Organic HAP content of each coating used is ≤ \$63.3890 (2.6 lb HAP/gal coating solids) and each thinner, additive, and cleaning material contains no organic HAP	\$63.3930	Record keeping P/M	Every six months	Y
63.3892	Operating limit – Exemption for compliant					Y



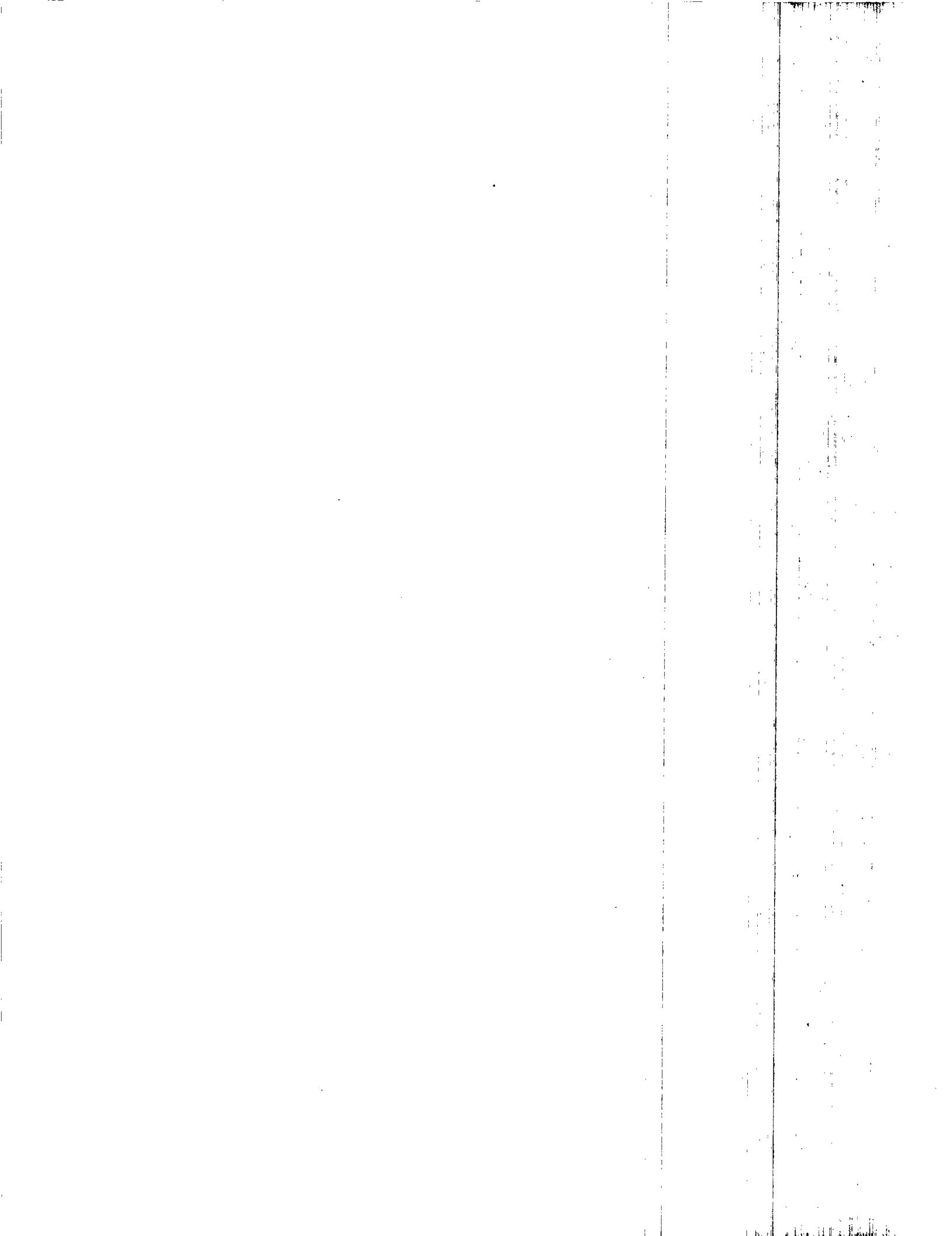
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-32 Flow Jet Pipe Labeler

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
63.3893	material option Work practice standards – Exemption for compliant material option					Y
63.3900(a)(1)	General requirements – compliant material option	Comply with §63.3890	§63.3930	Record keeping P/M	Every six months	Y
63.3910(b)	Initial Notification –January 1, 2004					Y
63.3910(c)(1)-(3)	Notification of compliance status – name, address, responsible official, reporting period dates					Y
63.3910(c)(4)	Notification of compliance status – Identification of compliance option(s)					Y
63.3910(c)(5)	Achievement of emission limitations for the initial compliance period					Y
63.3910(c)(6)	Notification of compliance status – Deviation reports					Y
63.3910(c)(7)	Notification of compliance status – Data (mass fraction of HAPs, volume fraction of coating solids, density, waste material and mass of HAPs)					Y
63.3910(c)(8)(i)	Notification of compliance status – calculation of lb HAP emitted per gallon of coating solids					Y
63.3920(a)	Reporting requirements – semiannual compliance reports					Y
63.3930	Record keeping requirements					Y
63.3931	Records retention – 5 years total, 2 years onsite					Y
63.3940	Initial Compliance demonstration date - §63.3883					Y
63.3941	Initial Compliance demonstration methods					Y
63.3942(a)	Continuous Compliance demonstration	Comply with §63.3890	§63.3930	Record keeping P/M	Every six months	Y
63.3942(b)	Deviation definition for compliant material					Y



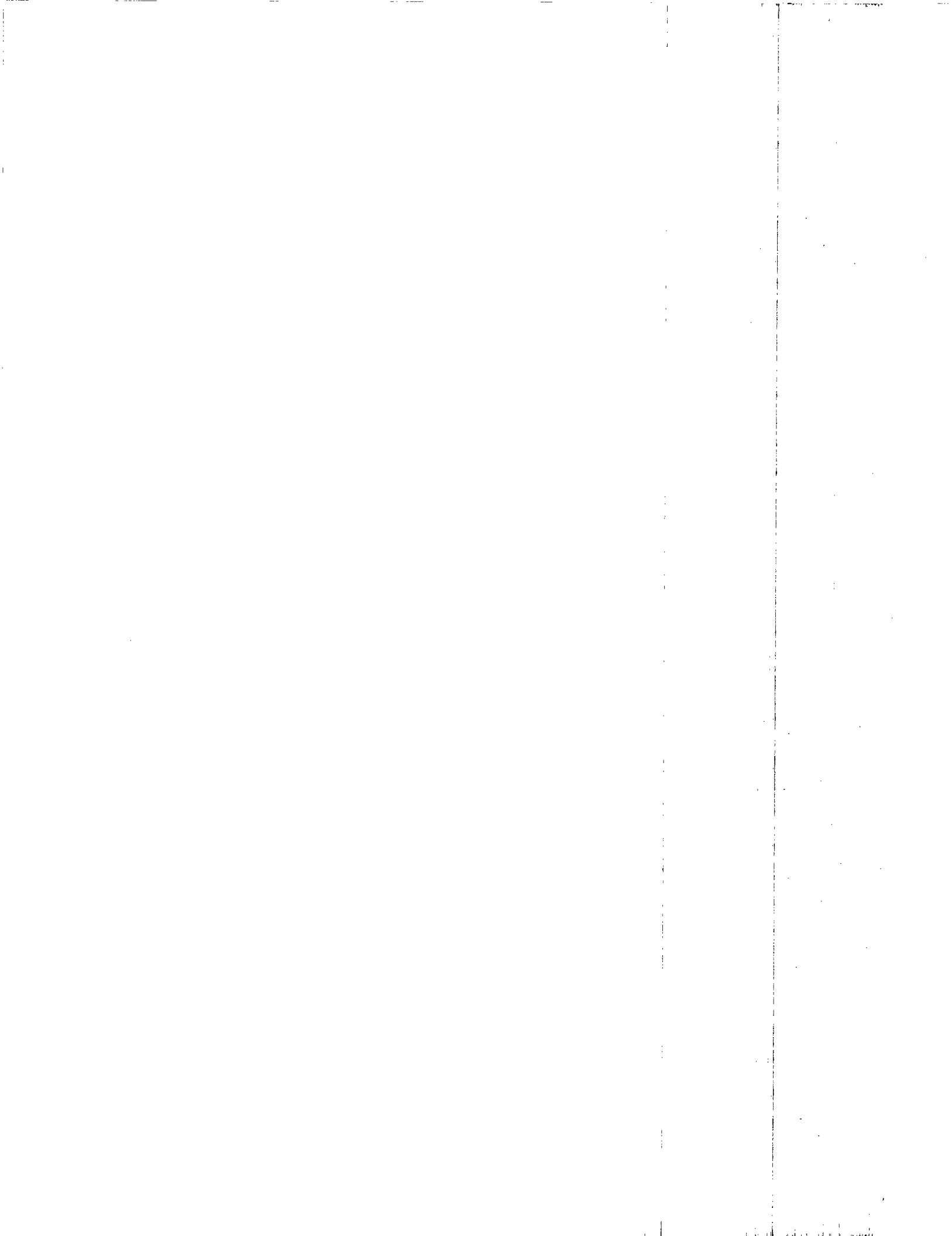
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-32 Flow Jet Pipe Labeler

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
63.3942(c),(d)	Continuous Compliance demonstration – option					Y
63.3980	Continuous Compliance demonstration – semiannual reports, records Delegation					Y
63.3981	Definitions					Y
Table 2 to Subpart MMMM of Part 63	Applicability of General Provisions					Y
Table 3 to Subpart MMMM of Part 63	Default Organic HAP Mass Fraction for Solvents and Solvent Blends					Y
BAAQMD Condition #21322						
Part 1	Material throughput limit - Ink (Basis: Cumulative Increase)	≤ 2,500 gallons/any consecutive 12-month period	BAAQMD Condition #21322, Part 4	Record keeping P/M	Once every six months	Y
Part 2	Material throughput limit – Cleanup Solvent (Basis: Cumulative Increase)	≤ 1,000 gallons/any consecutive 12-month period	BAAQMD Condition #21322, Part 4	Record keeping P/M	Once every six months	Y
Part 3	Material Options – POC limit, NPOC limit (Basis: Cumulative Increase)	POC = 0 lb/year NPOC ≤ 22,880 lb/ any consecutive 12-month period	BAAQMD Condition #21322, Part 4	Record keeping P/M	Once every six months	Y
Part 4	Record keeping requirements (Basis: Cumulative Increase, Regulation 2-5)					Y



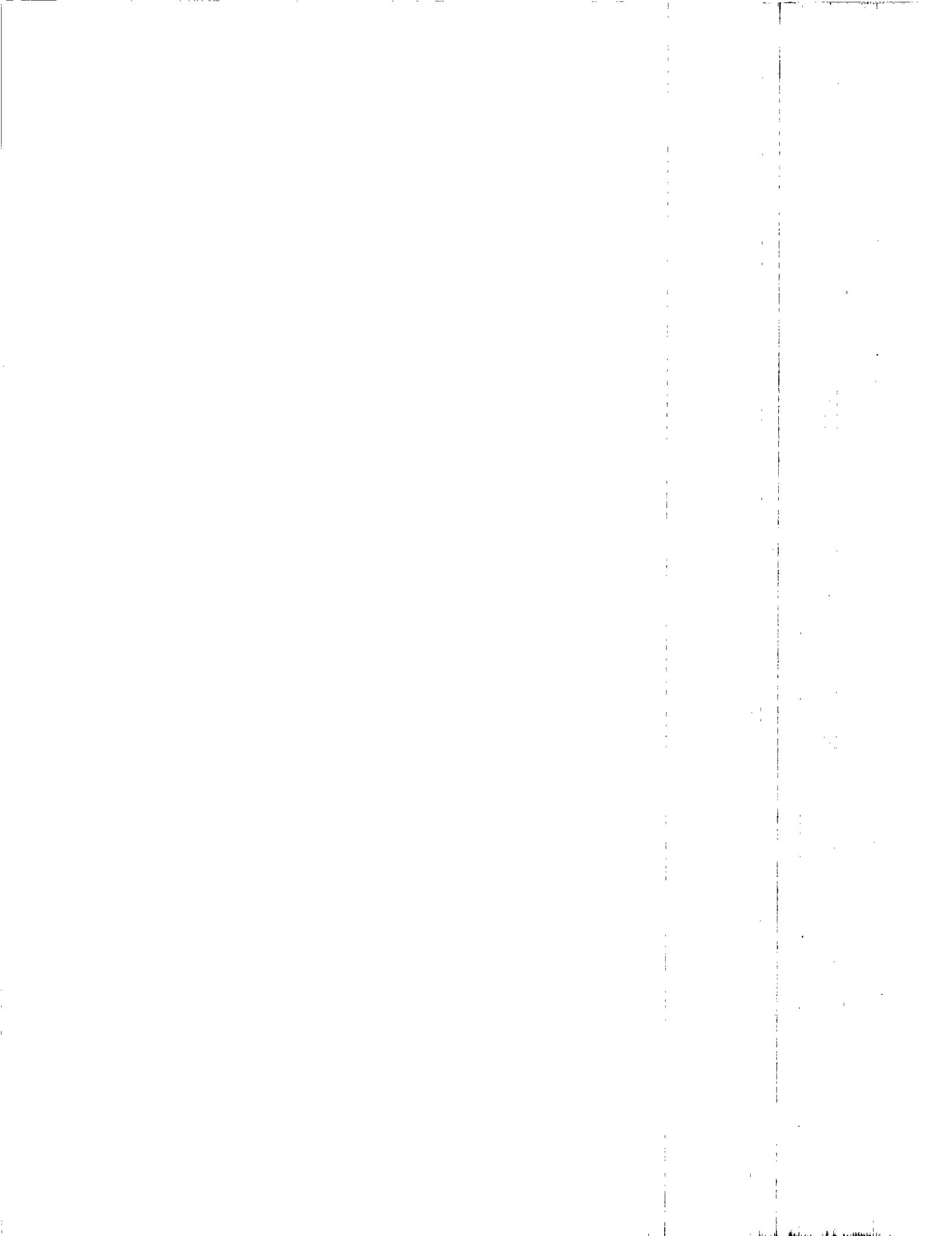
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements S-14 Fittings Dip Barrel
S-34 Pipe Finishing Dip Tank (P2, P3) S-35 Pipe Finishing Dip Tank (P4)
S-36 Pipe Finishing Dip Tank (P5, P6)
S-43 Pipe Finishing Dip Tank (P1)

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
BAAQMD Regulation 8, Rule 19	Surface Preparation and Coating of Miscellaneous Metal Parts and Products (10/16/02)					
8-19-302.2	Solvents and Surface Coating Requirements	VOC content of coatings 2.8 lb/gallon of coating applied, excluding water	BAAQMD Condition #24639, Part 11	Record keeping P/M	Once every six months	Y
8-19-320	Solvent Evaporative Loss Minimization					Y
8-19-501	Record keeping requirements					Y
8-19-601	Analysis of Samples					Y
NESHAP 40 CFR Part 63, Subpart MMMM	National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products (04/20/06)					
63.3880	Purpose					Y
63.3881(a),(b)	Applicability - facility					Y
63.3882(a), (b)(1)	Applicability – coating operation					Y
63.3883(b)	Initial compliance date (January 2, 2007)					Y
63.3890(b)(1)	Emission limit – existing facility general use coating	Organic HAP \leq 2.6 lb/gal of coating solids used during each 12-month compliance period	§63.3930	Record keeping P/M	Every six months	Y
63.3891(a)	Emission limit option – compliant material option	Organic HAP content of each coating used is \leq §63.3890 (\leq 2.6 lb/gal of coating solids)and each thinner, additive, and cleaning material contains no organic HAP	§63.3930	Record keeping P/M	Every six months	Y
63.3892	Operating limit – Exemption for compliant material option					Y
63.3893	Work practice standards –					Y



Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements S-14 Fittings Dip Barrel
S-34 Pipe Finishing Dip Tank (P2, P3) S-35 Pipe Finishing Dip Tank (P4)
S-36 Pipe Finishing Dip Tank (P5, P6)
S-43 Pipe Finishing Dip Tank (P1)

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
	Exemption for compliant material option					
63.390(a)(1)	General requirements – compliant material option	Comply with §63.3890	§63.3930	Record keeping P/M	Every six months	Y
63.3910(b)	Initial Notification – January 1, 2004					Y
63.3910(c)(1)-(3)	Notification of compliance status – name, address, responsible official, reporting period dates					Y
63.3910(c)(4)	Notification of compliance status – Identification of compliance option(s)					Y
63.3910(c)(5)	Notification of compliance status – Achievement of emission limitations for the initial compliance period					Y
63.3910(c)(6)	Notification of compliance status – Deviation reports					Y
63.3910(c)(7)	Notification of compliance status – Data (mass fraction of HAPs, volume fraction of coating solids, density, waste material and mass of HAPs)					Y
63.3910(c)(8)(i)	Notification of compliance status – calculation of lb HAP emitted per gallon of coating solids					Y
63.3920(a)	Reporting requirements – semiannual compliance reports					Y
63.3930	Record keeping requirements					Y
63.3931	Records retention – 5 years total, 2 years onsite					Y
63.3940	Initial Compliance demonstration date - §63.3883					Y
63.3941	Initial Compliance demonstration methods					Y
63.3942(a)	Continuous Compliance demonstration	Comply with §63.3890	§63.3930	Record keeping P/M	Every six months	Y



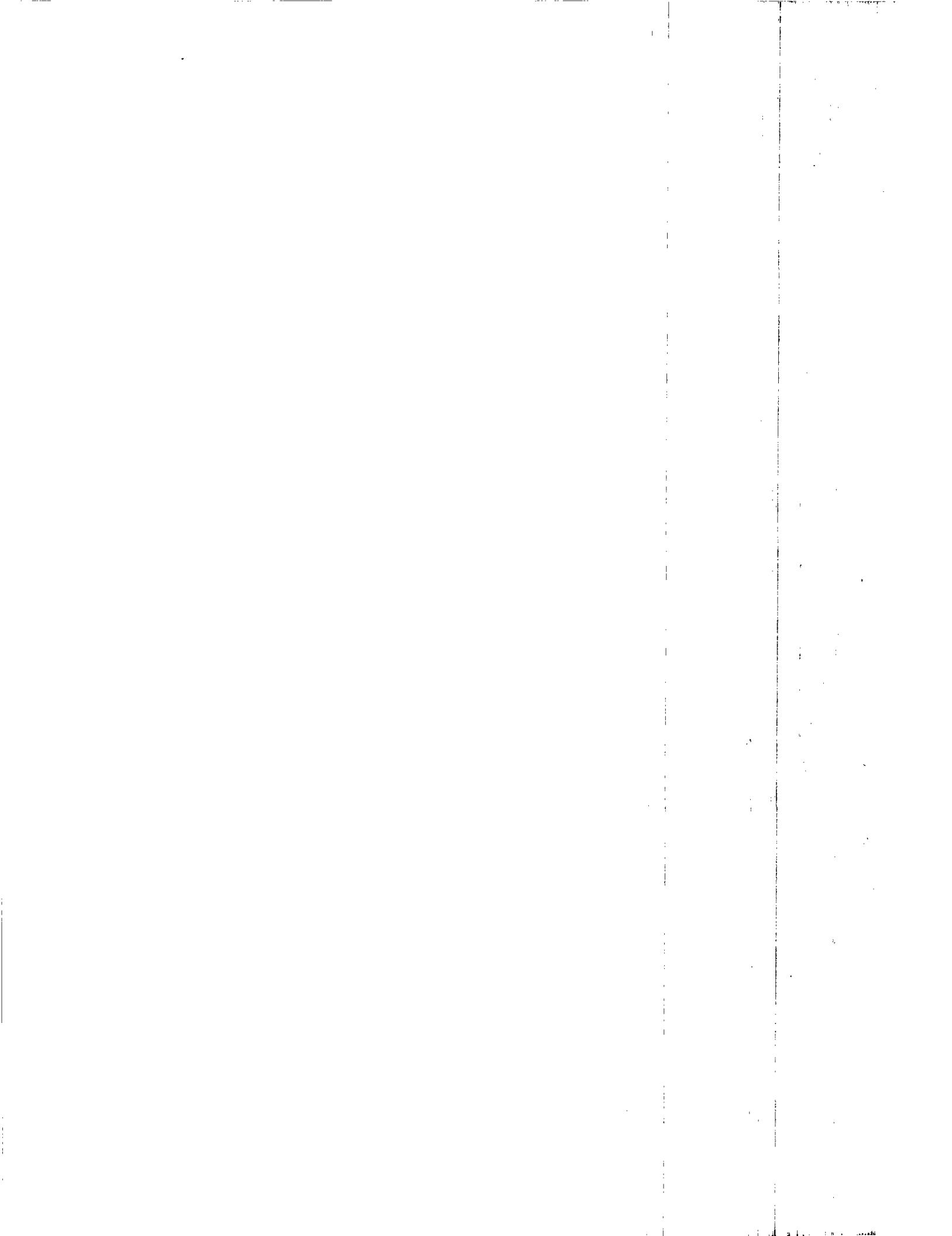
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements S-14 Fittings Dip Barrel
S-34 Pipe Finishing Dip Tank (P2, P3) S-35 Pipe Finishing Dip Tank (P4)
S-36 Pipe Finishing Dip Tank (P5, P6)
S-43 Pipe Finishing Dip Tank (P1)

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
63.3942(b)	Deviation definition for compliant material option					Y
63.3942(c),(d)	Continuous Compliance demonstration – semiannual reports, records					Y
63.3980	Delegation					Y
63.3981	Definitions					Y
Table 2 to Subpart MMMM of Part 63	Applicability of General Provisions					Y
Table 3 to Subpart MMMM of Part 63	Default Organic HAP Mass Fraction for Solvents and Solvent Blends					Y
BAAQMD Condition #24639	For S-34, S-35, S-36, S-43					
Part 1	Material throughput limit for S-34, S-35, S-36 and S-43 combined (Basis: Cumulative Increase, Offsets, Toxics)	Synthetic asphalt pipe coating throughput ≤ 251,442 gallons (1,090 tons)/any consecutive 12-month period	BAAQMD Condition #24639, Part 11	Record keeping P/M	Once every six months	Y
Part 2	Material throughput limit for S-43 (Basis: Cumulative Increase)	Synthetic asphalt pipe coating throughput ≤ 2,000 gallons/any consecutive 12-month period	BAAQMD Condition #24639, Part 11	Record keeping P/M	Once every six months	Y
Part 3	Specification of material - Synthetic asphalt pipe coating (Basis: Cumulative Increase)	VOC limit ≤ 0.04 lb/gallon	BAAQMD Condition #24639, Part 11	Record keeping P/M	Once every six months	Y
Part 4	Abatement requirement – S-34, S-35, S-36 abated by A35 and A-36 (Basis: Cumulative Increase)					Y
Part 5	A-35 and A-36 pressure gauge and operation and maintenance requirement (Basis: Cumulative Increase)					Y



Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements S-14 Fittings Dip Barrel
S-34 Pipe Finishing Dip Tank (P2, P3) S-35 Pipe Finishing Dip Tank (P4)
S-36 Pipe Finishing Dip Tank (P5, P6)
S-43 Pipe Finishing Dip Tank (P1)

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
Part 6	Hot dip operating temperature limit (S-34, S-35, S-36, S-43) (Basis: Cumulative Increase, Toxics)	Coating Temperature Limit ≤ 500 degrees F	BAAQMD Condition #24639, Part 7	Record keeping P/M	Once every six months	Y
Part 7	Temperature measuring and recording device requirement for each S-34, S-35, S-36, S-43					N – backup alarm system verified no violation of permit requirements as a result of the minor data loss
Part 8	Prohibition on cleanup solvent (Basis: Cumulative Increase)					Y
Part 9	Odor Abatement Plan requirement for S-43 if one District-confirmed odor complaint					Y
Part 10	Comprehensive Odor Abatement Plan requirement if public nuisance under BAAQMD 1-301					Y
Part 11	Record keeping requirements of net usage of asphalt coating at each S-34, S-35, S-36, S-43 (Basis: Record keeping)					Y
Part 11a	Record keeping requirements Operating hours of S-34, S35, S-36, S-43 (Basis: Record keeping)					Y
Part 11b	Record keeping requirements Operating hours of A-35 and A-36 (Basis: Record keeping)					Y
Part 11c	Maintenance Records for A-35 and A-36 (Basis: Record keeping)					Y
Part 12	Shutdown requirement for cutback asphalt dip tanks (Basis: Contemporaneous emission reduction credits)					Y

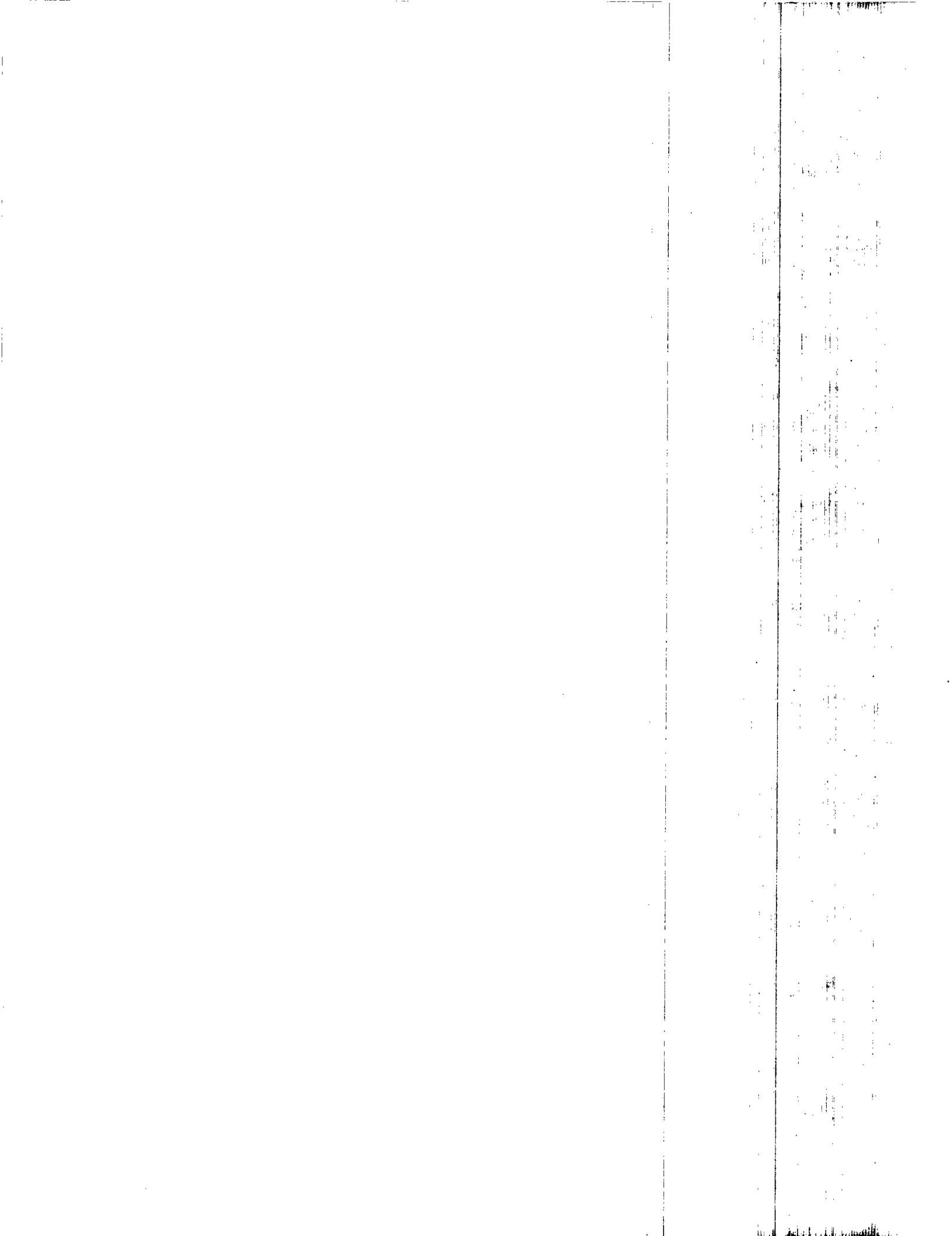


Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-38 Vertical Asphalt Storage Tank #1 (exempt)
S-39 Vertical Asphalt Storage Tank #2 (exempt)

Applicable Requirement BAAQMD	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
Regulation 2, Rule 1 2-1-123.3.7	Exemption from permit requirements (storage of asphalt with a sulfur content < 0.5%)				Y	
BAAQMD Regulation 8, Rule 5 8-5-117	Storage of Organic Liquids (10/18/06)				Y	
SIP Regulation 8, Rule 5 8-5-117	Limited Exemption, Low Vapor Pressure (≤ 0.5 psia)				Y	
NESHAP 40 CFR Part 63, Subpart MMMM 63.3880	National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products (04/20/06)	Limited Exemption, Low Vapor Pressure (≤ 0.5 psia)			Y	
63.3881(a),(b) 63.3882(a), (b)(2) 63.3883(b)	Purpose				Y	
63.3893	Applicability - facility				Y	
63.3910(b)	Applicability – storage containers and mixing vessels of coatings, thinners				Y	
63.3910(c)(1)-(3)	Initial compliance date (January 2, 2007)				Y	
63.3910(c)(4)	Work practice standards – Exemption for compliant material option				Y	
63.3910(b)	Initial Notification – January 1, 2004				Y	
63.3910(c)(1)-(3)	Notification of compliance status – name, address, responsible official, reporting period dates				Y	
63.3910(c)(4)	Notification of compliance status – Identification of compliance option(s)				Y	

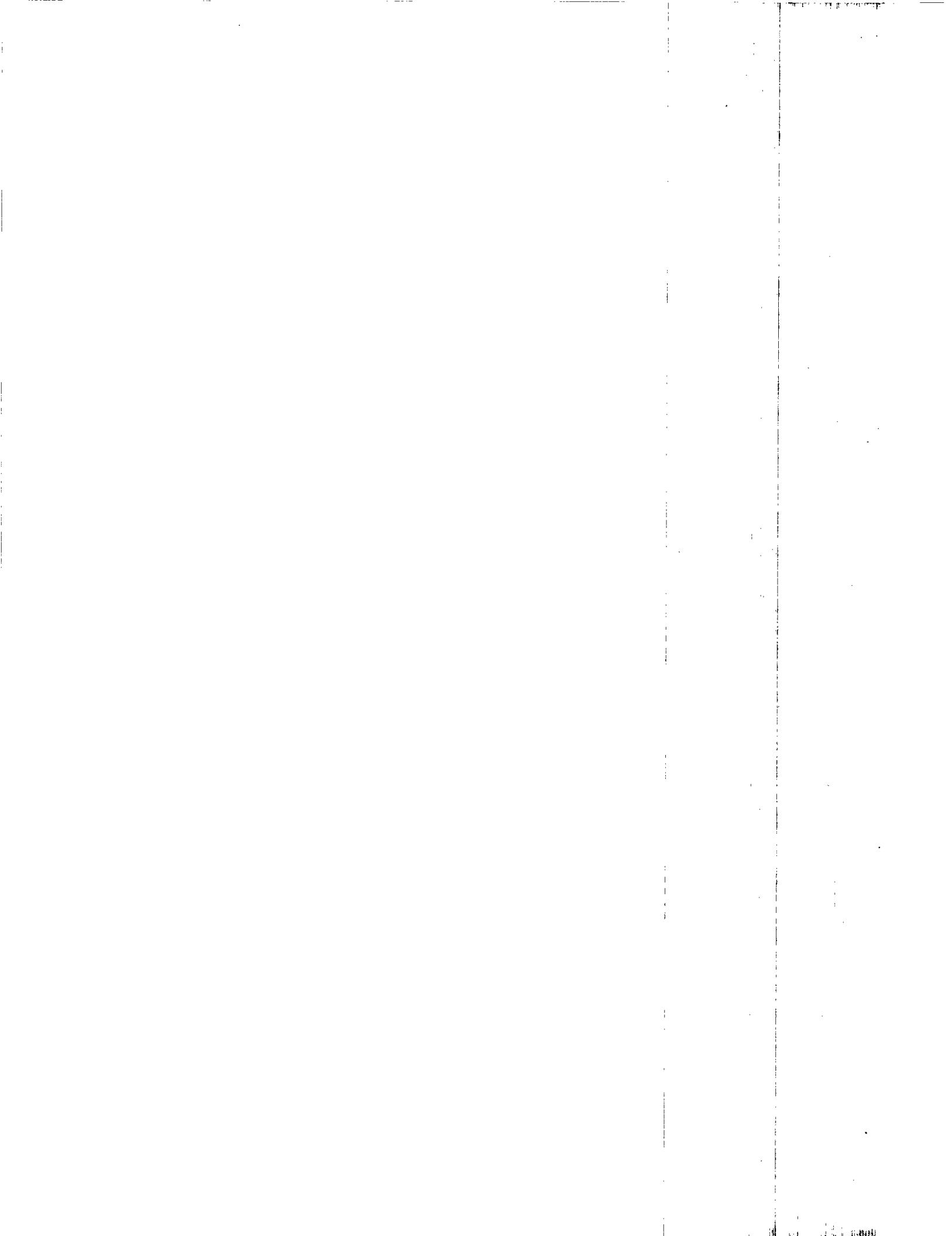
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-38 Vertical Asphalt Storage Tank #1 (exempt)
S-39 Vertical Asphalt Storage Tank #2 (exempt)

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
63.3910(c)(5)	Notification of compliance status – Achievement of emission limitations for the initial compliance period					Y
63.3910(c)(6)	Notification of compliance status – Deviation reports					Y
63.3910(c)(7)	Notification of compliance status – Data (mass fraction of HAPs, volume fraction of coating solids, density, waste material and mass of HAPs)					Y
63.3910(c)(8)(i)	Notification of compliance status – calculation of lb HAP emitted per gallon of coating solids					Y
63.3920(a)	Reporting requirements – semiannual compliance reports					Y
63.3930	Record keeping requirements					Y
63.3931	Records retention – 5 years total, 2 years onsite					Y
63.3942(b)	Deviation definition for compliant material option					Y
63.3942(c),(d)	Continuous Compliance demonstration – semiannual reports, records					Y
63.3980	Delegation					Y
63.3981	Definitions					Y
Table 2 to Subpart MMMM of Part 63	Applicability of General Provisions					Y
Table 3 to Subpart MMMM of Part 63	Default Organic HAP Mass Fraction for Solvents and Solvent Blends					Y



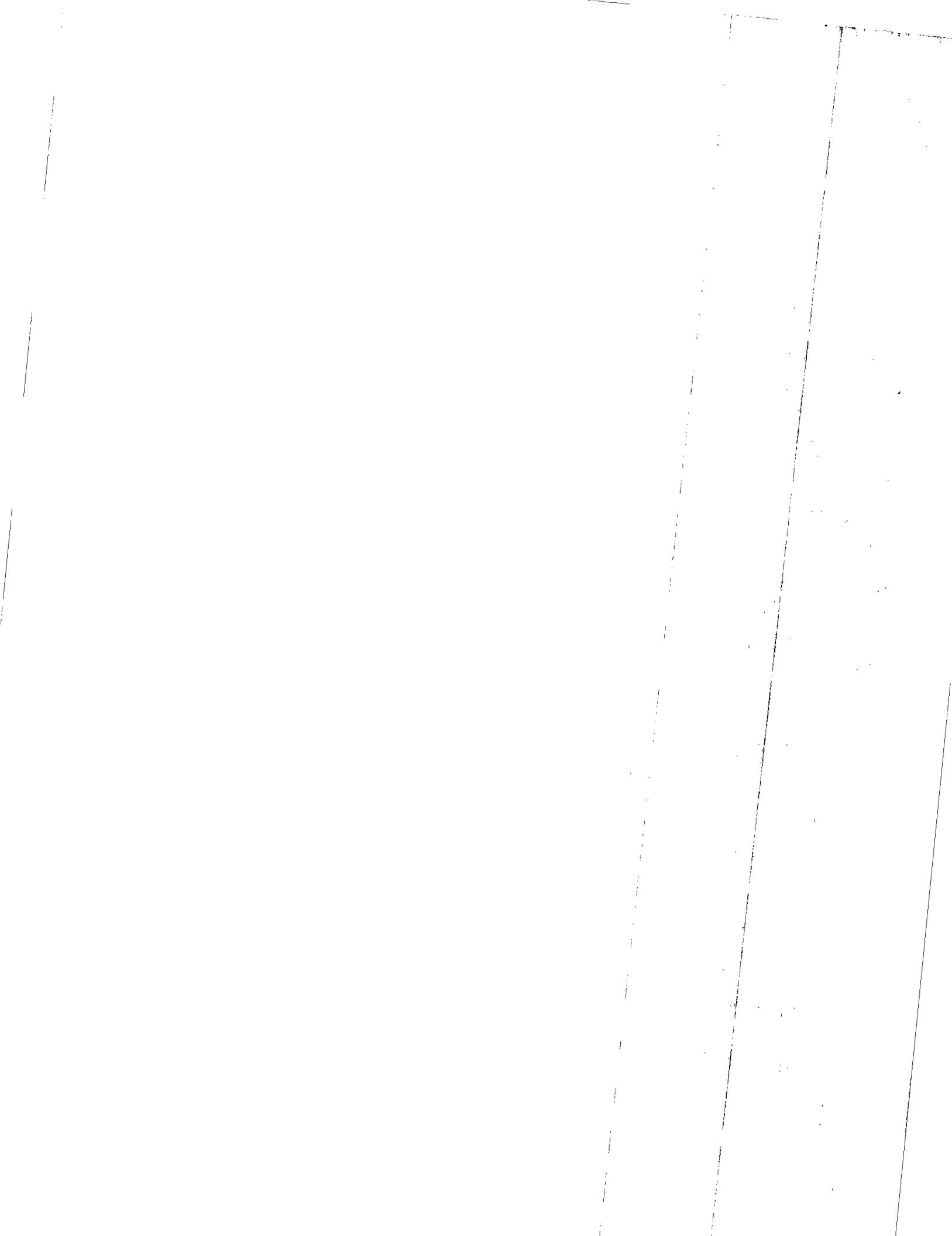
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-46 – Sand Storage Bunker
S-47 – Storage Piles S-50 Slurry Mix Stations

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
BAAQMD Regulation 6, Rule 1	Particulate Matter (12/05/07)					
6-1-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr				Y
6-1-305	Visible Particles	FILTERABLE PARTICULATE 4.10P ^{0.67} lb/hr where P is process weight, ton/hr				Y
6-1-311	General Operations					Y
6-1-401	Appearance of Emissions					Y
6-1-601	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions					Y
SIP Regulation 6	Particulate Matter and Visible Emissions (09/04/98)					
6-301	Ringelmann 1.0 Limitation	OPACITY Ringelmann 1.0 < 3 min/hr				Y
6-305	Visible Particles	FILTERABLE PARTICULATE 0.15 gr/dscf				Y
6-310	Particulate Weight Limitation	FILTERABLE PARTICULATE 4.10P ^{0.67} lb/hr. where P is process weight, ton/hr				Y
6-311	General Operations					
6-401	Appearance of Emissions					Y
6-601	Particulate Matter, Sampling, Sampling Facilities, Opacity Instruments and Appraisal of Visible Emissions					Y



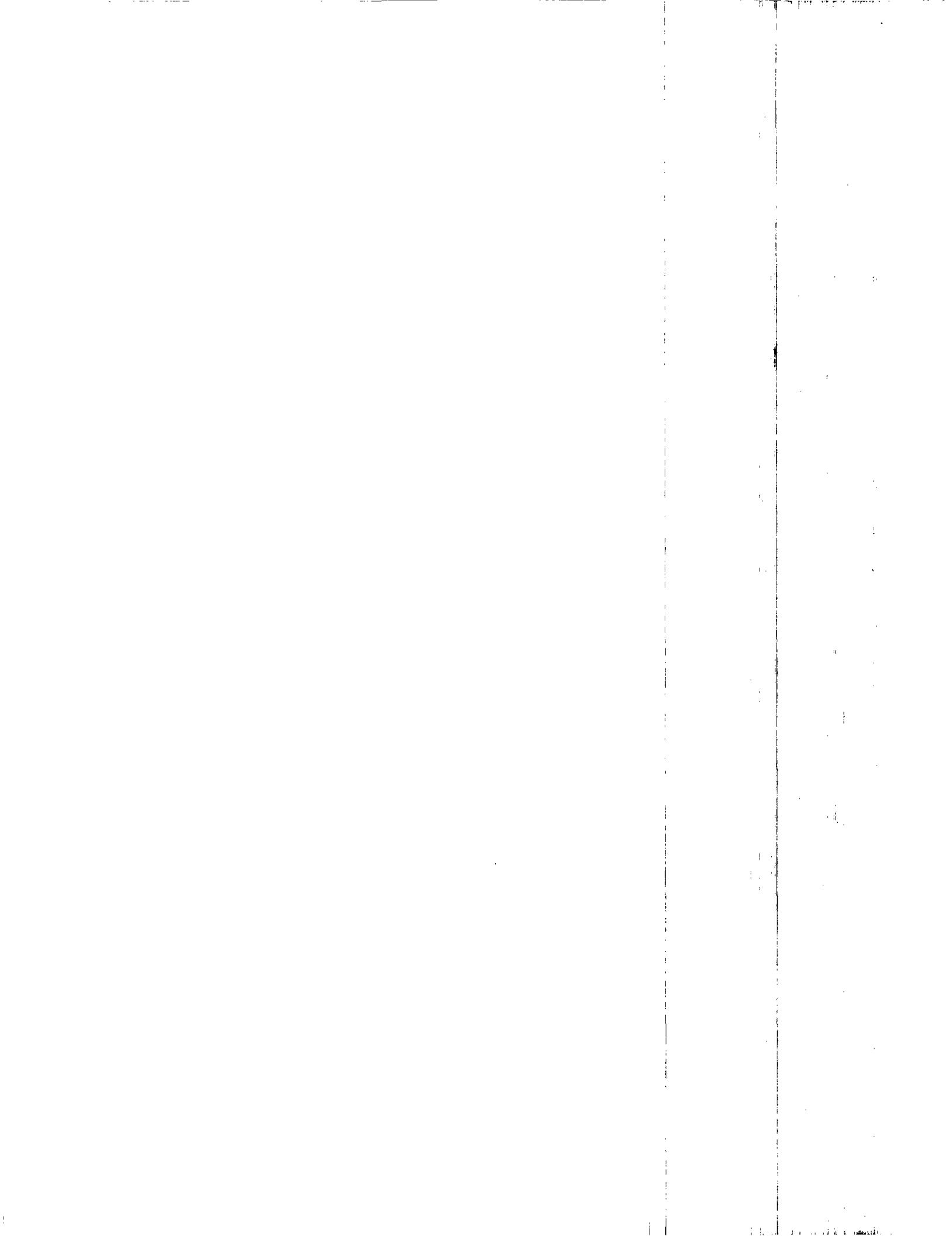
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-51 Specialty Finishing Paint Dip Tanks

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y/N)
BAAQMD Regulation 8, Rule 19	Surface Preparation and Coating of Miscellaneous Metal Parts and Products (10/16/02)					
8-19-302.2	Solvents and Surface Coating Requirements	VOC content of coatings 2.8 lb/gallon of coating applied, excluding water	BAAQMD Condition #24639, Part 11	Record keeping P/M	Once every six months	Y
8-19-320	Solvent Evaporative Loss Minimization					Y
8-19-501	Record keeping requirements					Y
8-19-601	Analysis of Samples					Y
NESHAP 40 CFR Part 63, Subpart MMM	National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products (04/20/06)					
63.3880	Purpose					Y
63.3881(a),(b)	Applicability - facility					Y
63.3882(a), (b)(1)	Applicability – coating operation					Y
63.3883(b)	Initial compliance date (January 2, 2007)					Y
63.3890(b)(1)	Emission limit – existing facility general use coating	≤ 2.6 lb/gal of coating solids used during each 12-month compliance period	Organic HAP §63.3930	Record keeping P/M	Every six months	Y
63.3891(a)	Emission limit option – compliant material option	Organic HAP content of each coating used is ≤ §63.3890 (≤ 2.6 lb/gal of coating solids)and each thinner, additive, and cleaning material contains no organic HAP	§63.3930	Record keeping P/M	Every six months	Y
63.3892	Operating limit – Exemption for compliant					Y



Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-51 Specialty Finishing Paint Dip Tanks

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
63.3893	Work practice standards – material option Exemption for compliant material option					Y
63.3900(a)(1)	General requirements – compliant material option	Comply with §63.3890	§63.3930	Record keeping P/M	Every six months	Y
63.3910(b)	Initial Notification – January 1, 2004					Y
63.3910(c)(1)-(3)	Notification of compliance status – name, address, responsible official, reporting period dates					Y
63.3910(c)(4)	Notification of compliance status – Identification of compliance option(s)					Y
63.3910(c)(5)	Notification of compliance status – Achievement of emission limitations for the initial compliance period					Y
63.3910(c)(6)	Notification of compliance status – Deviation reports					Y
63.3910(c)(7)	Notification of compliance status – Data (mass fraction of HAPs, volume fraction of coating solids, density, waste material and mass of HAPs)					Y
63.3910(c)(8)(i)	Notification of compliance status – calculation of lb HAP emitted per gallon of coating solids					Y
63.3920(a)	Reporting requirements – semiannual compliance reports					Y
63.3930	Record keeping requirements					Y
63.3931	Records retention – 5 years total, 2 years onsite					Y
63.3940	Initial Compliance demonstration date - §63.3883					Y



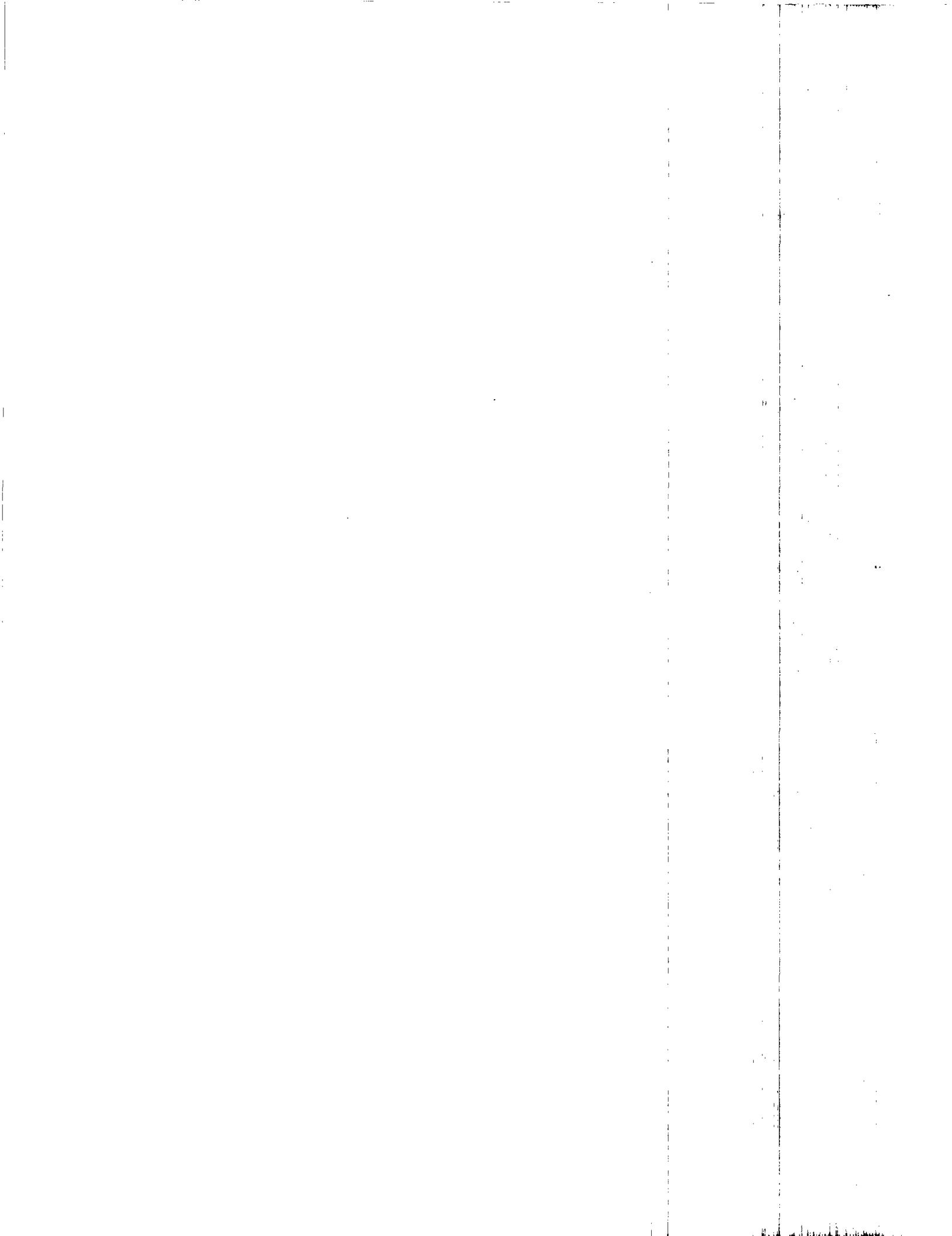
Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-51 Specialty Finishing Paint Dip Tanks

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
63.3941	Initial Compliance demonstration methods					Y
63.3942(a)	Continuous Compliance demonstration	Comply with §63.3890	§63.3930	Record keeping P/M	Every six months	Y
63.3942(b)	Deviation definition for compliant material option					Y
63.3942(c),(d)	Continuous Compliance demonstration – semiannual reports, records					Y
63.3980	Delegation					Y
63.3981	Definitions					Y
Table 2 to Subpart MMM of Part 63	Applicability of General Provisions					Y
Table 3 to Subpart MMM of Part 63	Default Organic HAP Mass Fraction for Solvents and Solvent Blends					Y
BAAQMD Condition # 25748	For S-51					
Part 1	Material throughput limit for S-51 (Basis: Cumulative Increase)	1000 gallon rust inhibitor and 500 gallon of grey/any consecutive 12-month period	BAAQMD Condition # 25748, Part 3	Record keeping P/M	Once every six months	Y



Source-specific Applicable Requirements, Applicable Limits & Compliance Monitoring Requirements
S-52 No Bake Molding System

Applicable Requirement	Regulation Title or Description of Requirement	Limit	Monitoring Citation	Monitoring & Frequency	Reporting	Compliance (Y / N)
BAAQMD Regulation 8, Rule 4	General Solvent and Surface Coating Operations (10/16/02)					
8-4-302.3	Solvents and Surface Coating Requirements	VOC content of coatings ≤ 3.5 lb/gallon of coating as applied	BAAQMD Condition #21322, Part 4	Record keeping P/M	Once every six months	Y
8-4-312	Solvent Evaporative Loss Minimization					Y
8-4-501	Record keeping requirements					Y
8-4-603	Analysis of Samples					Y
BAAQMD Condition # 25437	For S-52					
Part 1	Throughput limit (Basis: Cumulative Increase)	Techniset binder limit ≤ 43,880 gallons combined ≤ 251,442 gallons during any consecutive 12month period	BAAQMD Condition # 25437, Part 3 and 4	Record keeping P/M	Once every six months	Y
Part 2	Abatement Requirement by S-1 and A-21 and A-25		63.7740(a); BAAQMD Condition #9351, Part 2	Temperature monitor C	Once every six months	Y



SECTION 3

NESHAP EEEEE SEMI-ANNUAL REPORT

The semi-annual reporting requirements for 40 CFR, Part 63, Subpart EEEEE - NESHAP for Iron and Steel Foundries are included in §63.7751(b) and are presented in Sections 3.1 through 3.9 below.

The visible emission opacity requirements per §63.7731 are included in Section 3.10.

3.1 Company Name and Address (§63.7751(b)(1))

AB&I Foundry, a division of McWane, Inc.
7825 San Leandro Street
Oakland, CA 94621

3.2 Statement by Responsible Official (§63.7751(b)(2))

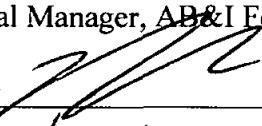
As the Responsible Official, I certify that the information in this report is true, accurate, and complete.

Name: Michael Lowe

Title: General Manager, AB&I Foundry

Signature:

Date:


9/26/18

3.3 Reporting Period Dates (§63.7751(b)(3))

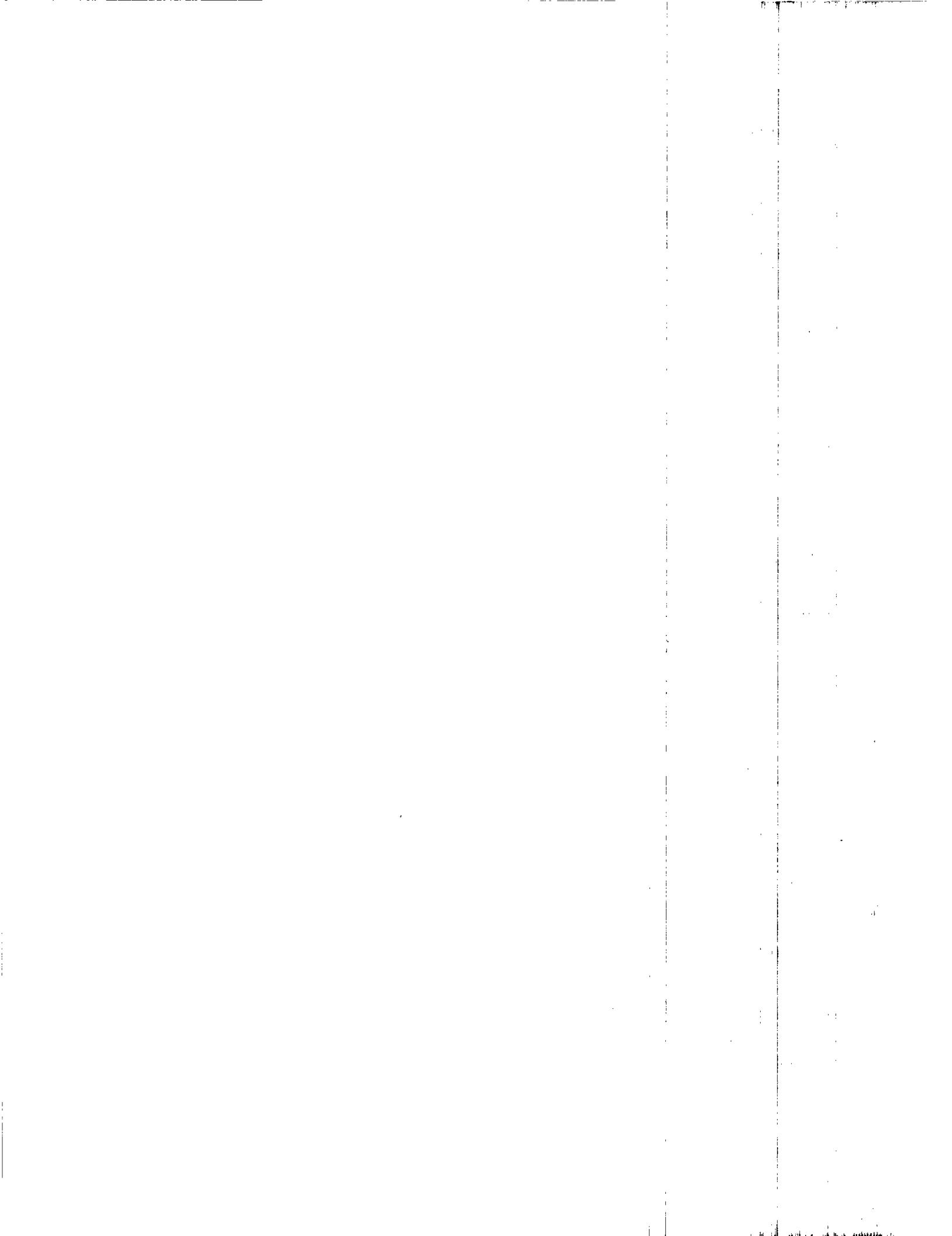
The date of the report is provided on the cover letter and the reporting period is March 1, 2018 through August 31, 2018.

3.4 Periodic Startup, Shutdown and Malfunction (§63.7751(b)(4))

AB&I operations were performed in a manner consistent with the SSM Plan. The information in §63.10(d)(5)(i) is provided below.

3.4.1 SSM Reports (§63.10(d)(5)(i))

The General Provisions of 40 CFR 63 require development of a SSM Plan for the affected facilities subject to Subpart EEEEE, NESHAP from Iron & Steel Foundries. During the reporting period, the procedures of the SSMP were followed for SSM events. An SSM Log is included in Attachment 3-1. As the Responsible Official, I certify that the information in this report is true, accurate, and complete.

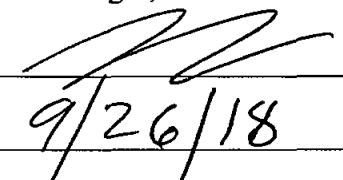


Name: Michael Lowe

Title: General Manager, AB&I Foundry

Signature:

Date:


9/26/18

3.5 Deviations (§63.7751(b)(5))

There were deviations identified during this reporting period and are included under §63.7751(b)(7) and (8) in Section 3.7 and Section 3.8 of this report.

3.6 Continuous Monitoring System (CMS) Out of Control Period (§63.7751(b)(6))

There were no periods during which a CMS was out-of-control as specified by §63.8(c)(7) during this reporting period.

3.7 Deviations from Emission Limit Not Using CMS or Work Practice Standards (§63.7751(b)(7))

There were no deviations identified during this reporting period. Refer to the attached deviation report summary (see Attachment 3-2).

3.7.1 Total Operating Time of the Affected Sources with Deviations (§63.7751(b)(7)(i))

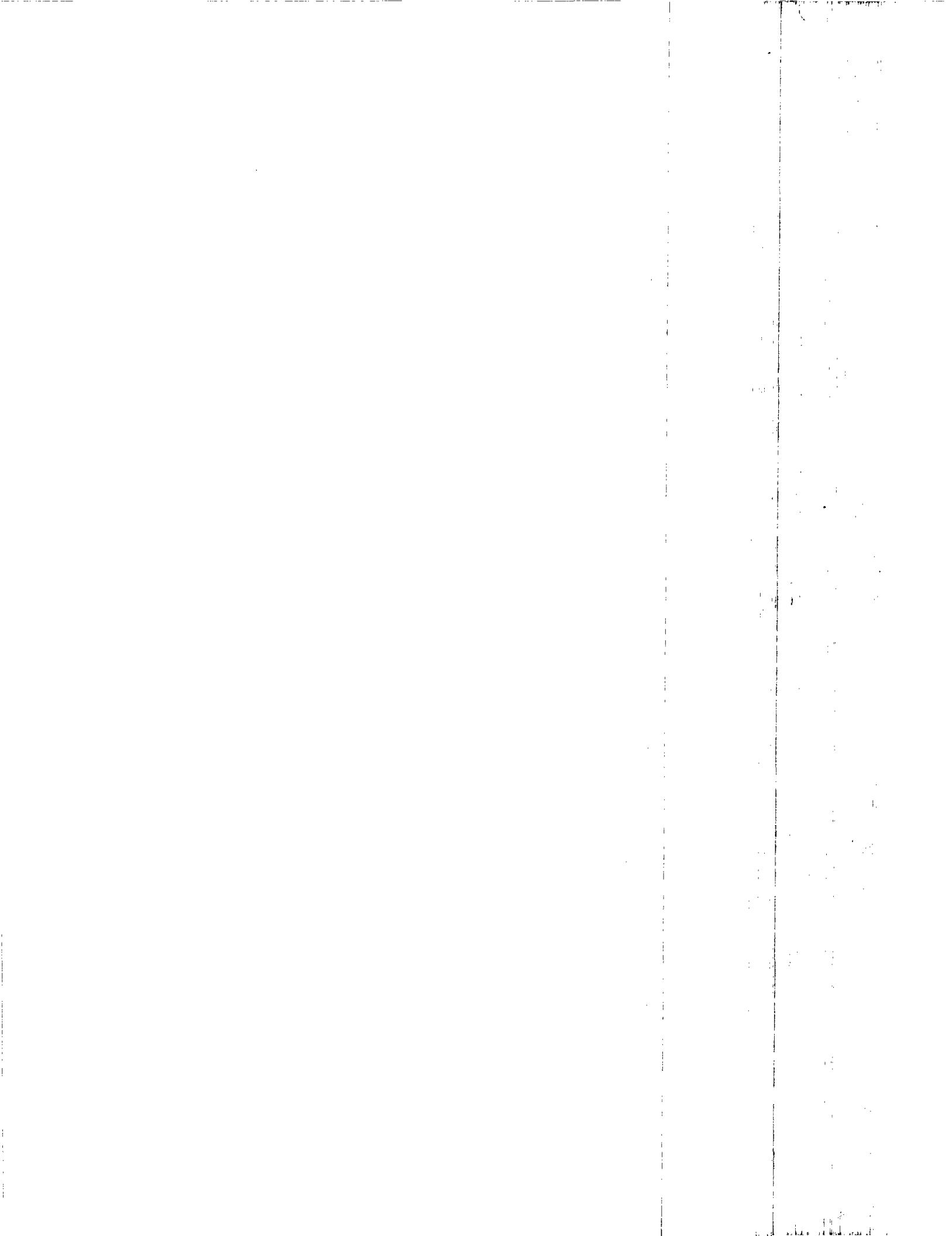
Refer to the attached deviation report summary (see Attachment 3-2).

3.7.2 For deviations from Emissions Limitation not using CMS or Work Practice Standards, information on the number, duration and cause of deviations and the corrective action taken (§63.7751(b)(7)(ii))

Refer to the attached deviation report summary (see Attachment 3-2).

3.8 For deviations from Emissions Limitation or Work Practice Standard using a CMS, information on the number, duration and cause of deviations and the corrective action taken (§63.7751(b)(8)(i)-(vii))

There were 4 deviations identified during this reporting period. Refer to the attached deviation report summary (see Attachment 3-3).



3.9 Description of the Process Unit and Continuous Monitoring Systems §63.7751(b)(8)(viii)-((xi))

AB&I operates an iron foundry in Oakland, CA for the production of cast iron in the manufacturing of water, sewer, and specialty fittings. Iron scrap is melted in a cupola furnace and the molten metal is poured into molds.

Cupola

The cupola is a metal melting furnace equipped with a side charge system and overhead emission capture and control system. The cupola capture and control system uses a combustion chamber to destroy the VOHAP and a baghouse to control metal HAP emissions. The combustion chamber is equipped with a thermocouple, which is the continuous parameter monitoring system (CPMS) that measures temperature in the combustion chamber. The cupola capture system is equipped with a draft pressure sensor in the cross-over duct (i.e. the vent gas pipe from the top of the cupola to the afterburner). The draft pressure sensor is the CPMS that measures capture system performance. The cupola combustion chamber operating temperature must be maintained at a minimum of 1,300 degrees Fahrenheit for a 15-minute averaging period. The draft pressure must be maintained at a minimum of 0.2 inches of water column (in. H₂O) vacuum for a 3-hour averaging period.

Disa 270 Pouring Station

The Disa 270 pouring station uses a vent hood and baghouse, and building structures, to control metal HAP emissions.

Disa 2013 Pouring Station

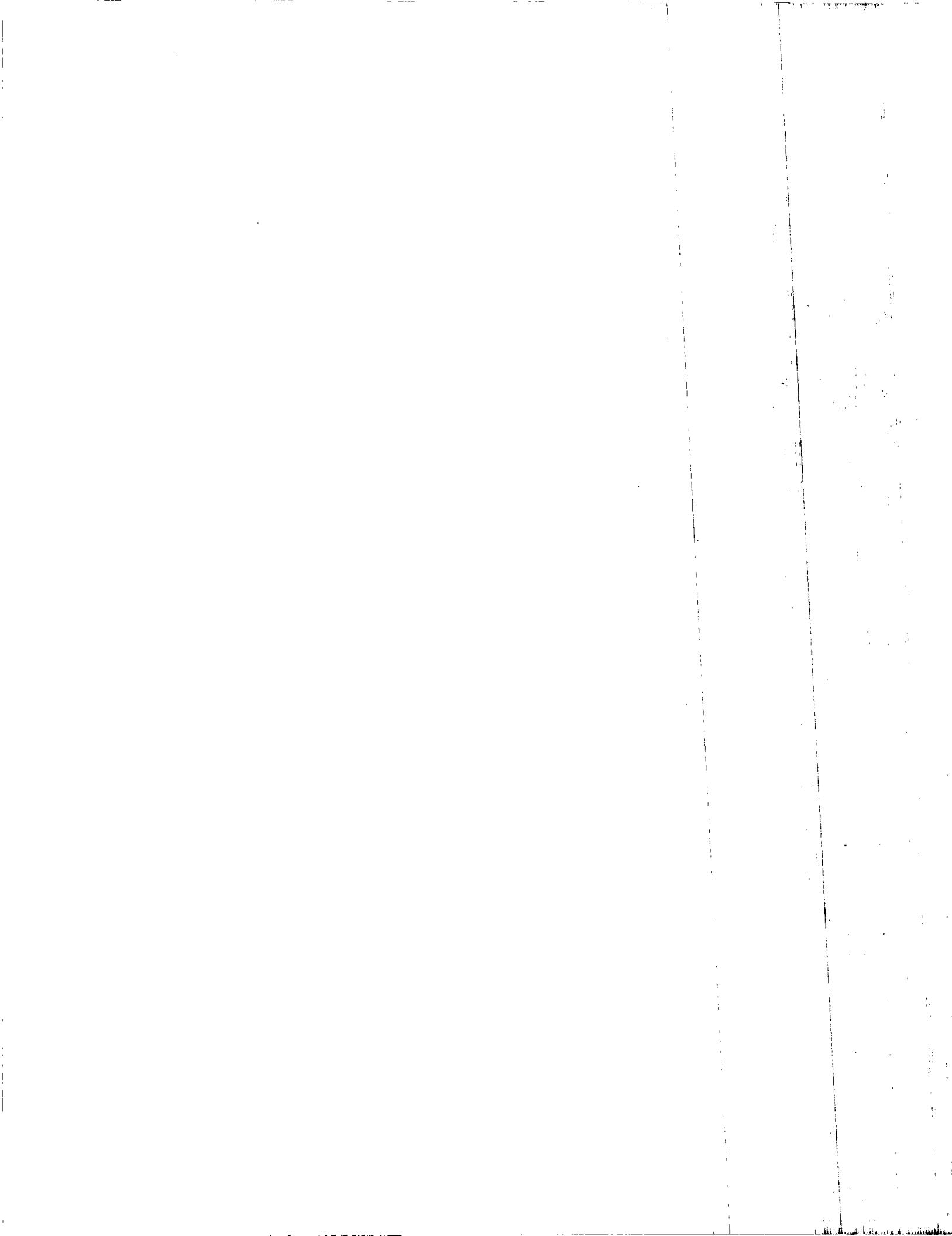
The Disa 2013 pouring station uses a vent hood and baghouse, and building structures, to control metal HAP emissions.

The cupola chamber thermocouples and draft pressure sensor are inspected, calibrated and maintained per the Operation & Maintenance Plan (OMP).

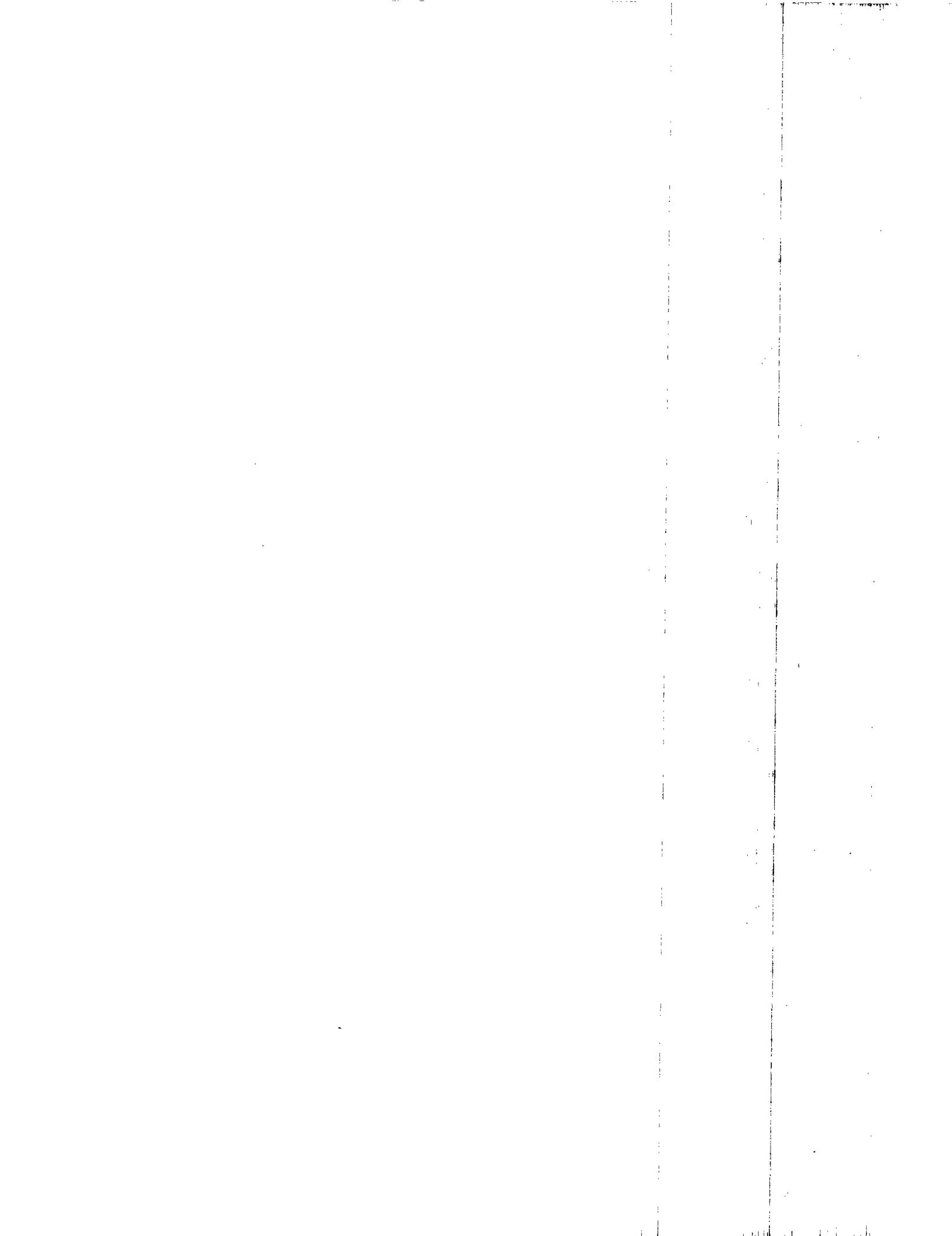
A CMS performance evaluation for the cupola chamber thermocouples and draft pressure sensor was conducted during the initial performance test. There were no changes of the continuous monitoring systems, processes, or controls since the last reporting period.

3.10 Visible Emissions (§63.7731(b))

A Visible Emissions Evaluation Test (Method 9) was completed by Montrose Air Quality Services – Antioch (MAQS ANTIOCH) for building and structures on July 3, 2018, and was below opacity limits. A copy of the test is included in this report.



Attachment 3-1
Malfunction Log



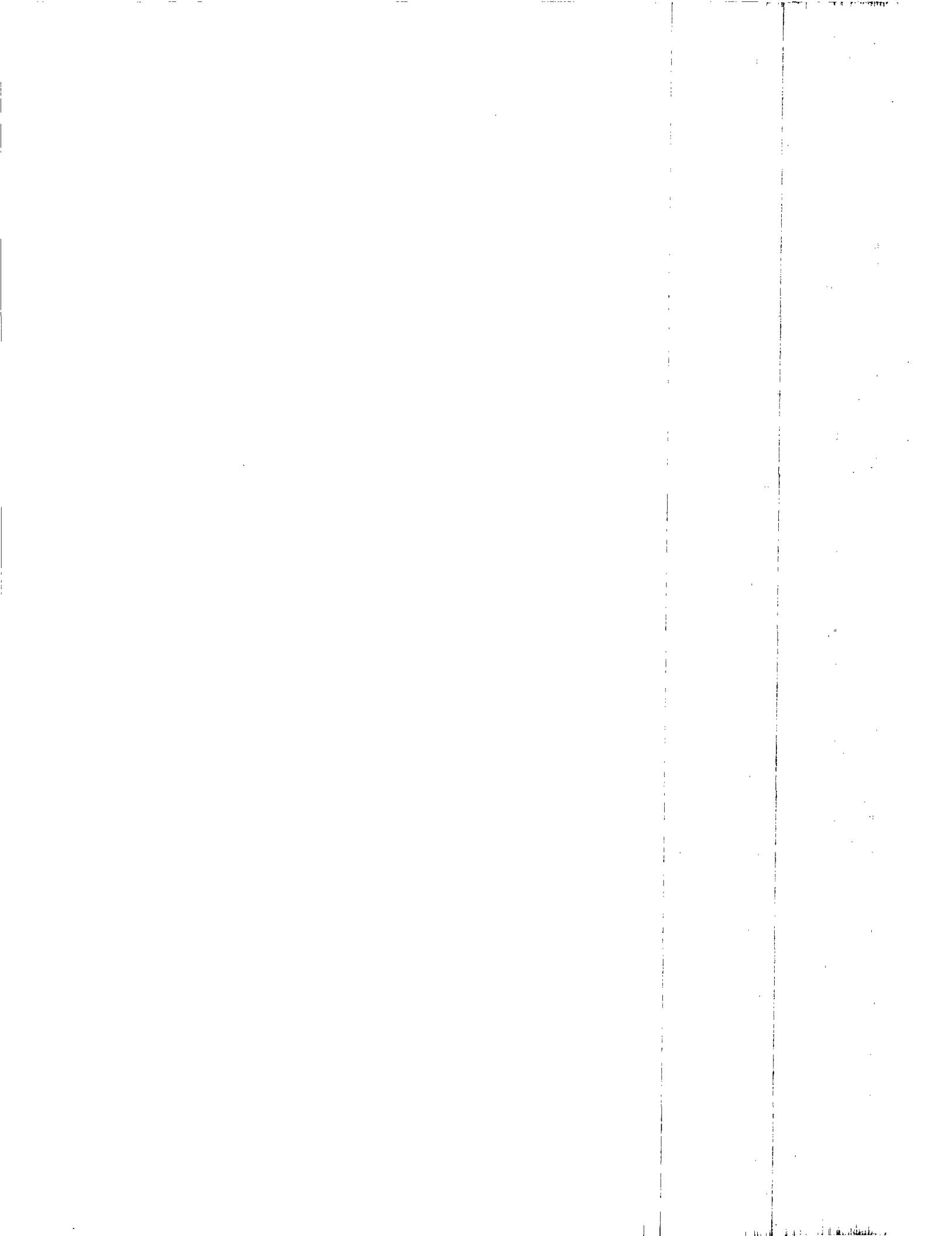
AB&I Foundry (AB&I)
Oakland, CA

MACT EEEEE Semi-Annual Report
Attachment 3-1 Malfunctions (§63.7751(b)(4) and (b)(8))

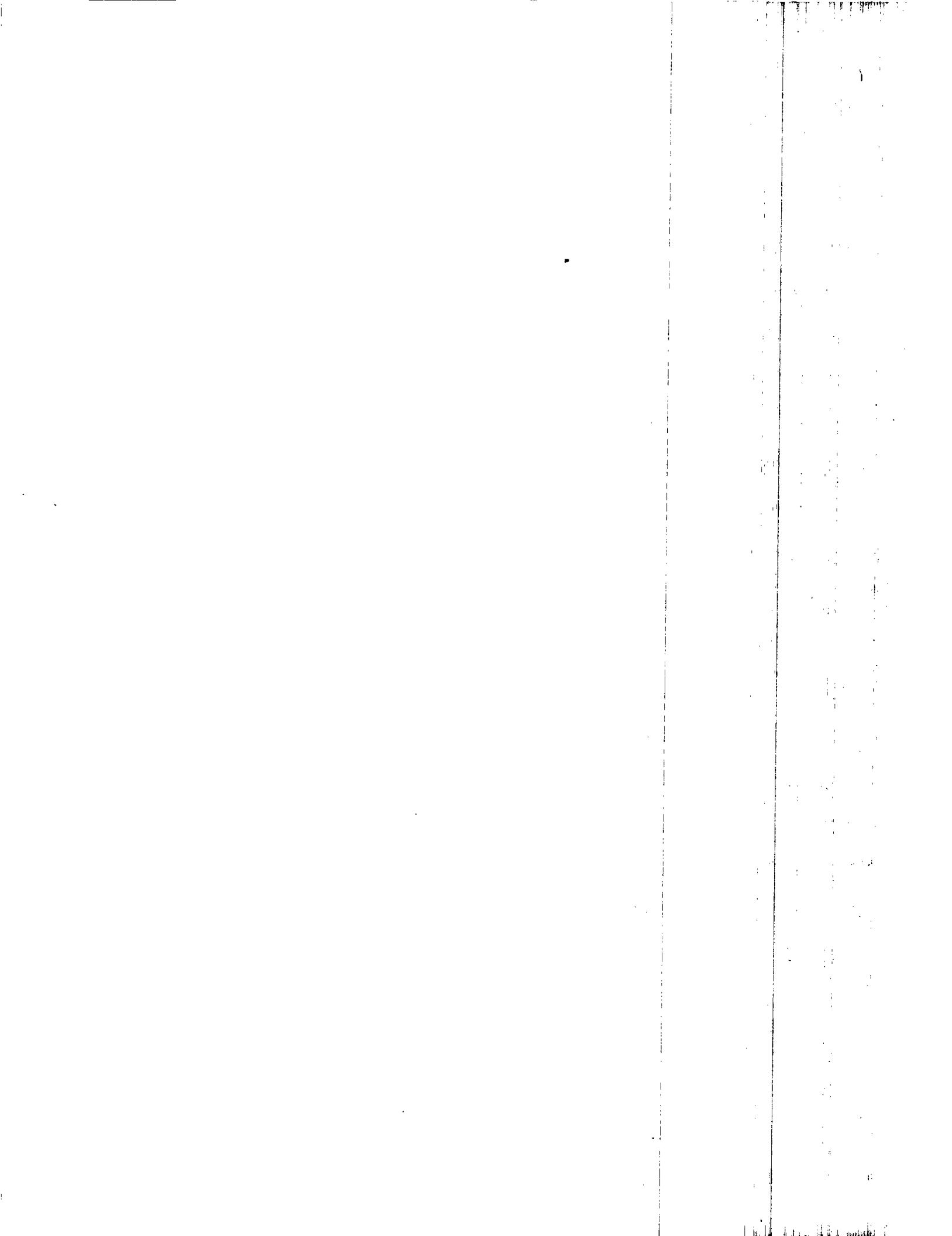
Malfunction Start Date / Time	Malfunction End Date / Time	Malfunction Issue Description	Malfunction Deviation Code
04/02/18 / 8:20am	04/02/18 / 8:25am	VFD Fault, system went into Spill Mode as programmed	0.08 P
04/02/18 / 12:10pm	04/02/18 / 12:12pm	Afterburner trip, system went into Spill Mode as programmed	0.03 C
04/09/18 / 4:26am	04/09/18 / 4:28am	Recuperator expansion fault, system went into Spill Mode as programmed	0.03 P
05/07/18 / 10:36am	05/07/18 / 10:40am	Recuperator expansion fault, system went into Spill Mode as programmed	0.07 P
05/23/18 / 6:18am	05/23/18 / 6:25am	Melted thermocouple wire, tripped afterburner, system went into Spill Mode as programmed	0.12 C
06/06/18 / 5:24am	06/06/18 / 5:24am	Recuperator expansion fault, system went into Spill Mode as programmed	0.02 P
06/06/18 / 12:30pm	06/06/18 / 12:33pm	Recuperator expansion fault, system went into Spill Mode as programmed	0.05 P
07/24/18 / 02:37pm	07/24/18 / 02:49pm	Power Loss, system went into Spill Mode as programmed	0.20 O
08/01/18 / 01:36pm	08/01/18 / 01:42pm	Baghouse fan tripped, system went into Spill Mode as programmed	0.10 C
08/03/18 / 1:57pm	08/05/18 / 2:00pm	Power Loss, system went into Spill Mode as programmed	0.05 O
08/29/18 / 10:39am	08/29/18 / 10:42am	Power loss, system went into Spill Mode as programmed	0.05 C
MALFUNCTION TOTAL TIME:			0.80

Requirement Citation: 40 CFR 63.7751(b)(4) and (b)(8)(i)

Deviation Code: Startup (SU), Shutdown (SD), Control Equipment Problems (C), Process Problems (P), Other Known Causes (O), Unknown Cause (U)



Attachment 3-2
Deviations without CMS



AB&I Foundry (AB&I)
Oakland, CA
MACT EEEEE Semi-Annual Report
Attachment 3-2 Deviations without CMS (§63.7751(b)(7))

Company Name:	A B&I Foundry	Location:	Oakland, CA	Plant No.	A0062
Report Period Began:	March 1, 2018	Report Period Ended:	August 31, 2018	Report Submittal Date	September 24, 2018

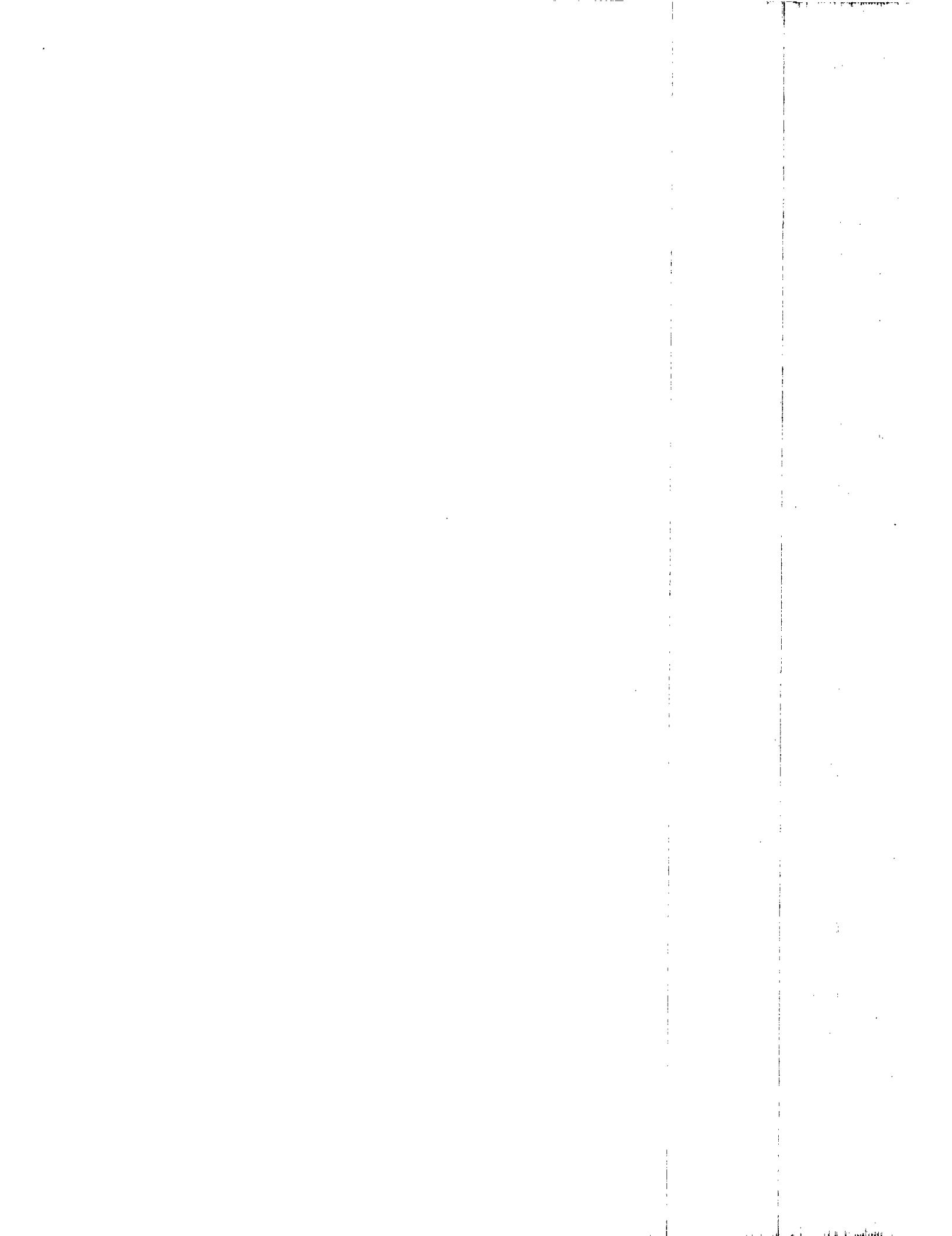
ID Number (Req'd if	Work Order Description or Description of Deviation	Event Frequency	Event No.	Deviation Period			Number of Deviations	Cause of Deviation	Corrective Action Taken To Remedy or Mitigate Deviation Situation
				Start Date	Start Time	End Date	End Time		
S-1	Afterburner tripped, the system went into Spill Mode as programmed	Single	1	5/1/2018	11:50 AM	5/1/2018	11:55 AM	1	A network cable was inadvertently disconnected.
S-1	Baghouse fan off, the system went into Spill Mode as programmed	Single	1	5/23/2018	12:03 PM	5/23/2018	12:08 PM	1	An operator inadvertently pushed an incorrect button, shutting off the baghouse fan.
S-25	Holding Furnace operated without Fume Baghouse	Single	1	4/18/2018	4:10 AM	4/18/2018	4:11 AM	1	The cupola was tapped out before the baghouse was started.
				TOTAL DEVIATIONS:		3			
				Equipment Deviation Time (hours):		0.38			

Note: All elements except Event No are required for each period of deviation

N/A = Not Applicable



Attachment 3-3
Deviations with CMS



AB&I Foundry (AB&I)
Oakland, CA
MACT EEEEEE Semi-Annual Report
Attachment 3-3 Deviations with CMS (§63.7751(b)(8))

Source	Date	Deviation Issue Description	Deviation Period ¹	Deviation Code ²	Deviation Start Time ³	Deviation End Time ³	Deviation Total Time (hr)
S-1	3/5/2018	Draft Pressure magnetehic failure on Cupola. Magnetehic was determined to be malfunctioning and was replaced. Readings returned to normal range.	O	C	2:30 PM	3:18 PM	0.80
S-1	6/4/2018	Draft Pressure below 0.20 on Cupola. Visual emissions were observed to be under 20% opacity out of the cupola charge doors during this time. AB&I submitted a 10-Day Non-Compliance and 30-Day Corrective Action report to the BAAQMD on June 13, 2018.	O	C	8:41 AM	1:30 PM	4.82
S-1	6/5/2018	Differential Pressure intermittently below 2.0 on Cupola Baghouse. No visual emissions were observed out of the cupola stack during this time. AB&I submitted a 10-Day Non-Compliance and 30-Day Corrective Action report to the BAAQMD on June 15, 2017.	O	C	11:22 AM	3:55 PM	1.43
S-1	6/8/2018	Differential Pressure intermittently below 2.0 on Cupola Baghouse. No visual emissions were observed out of the cupola stack during this time. AB&I submitted a 10-Day Non-Compliance and 30-Day Corrective Action report to the BAAQMD on June 15, 2017.	O	C	8:09 AM	3:53 PM	2.13
							TOTAL CUPOLA (hr) 9.18
Cupola Operating Time (hr)	1250				Cupola Deviation Time ⁴	0.73%	
Disa 270 Operating Time (hr)	1375				Disa 270 Deviation Time ⁴	-	
Disa 2013 Operating Time (hr)	555				Disa 2013 Deviation Time ⁴	-	

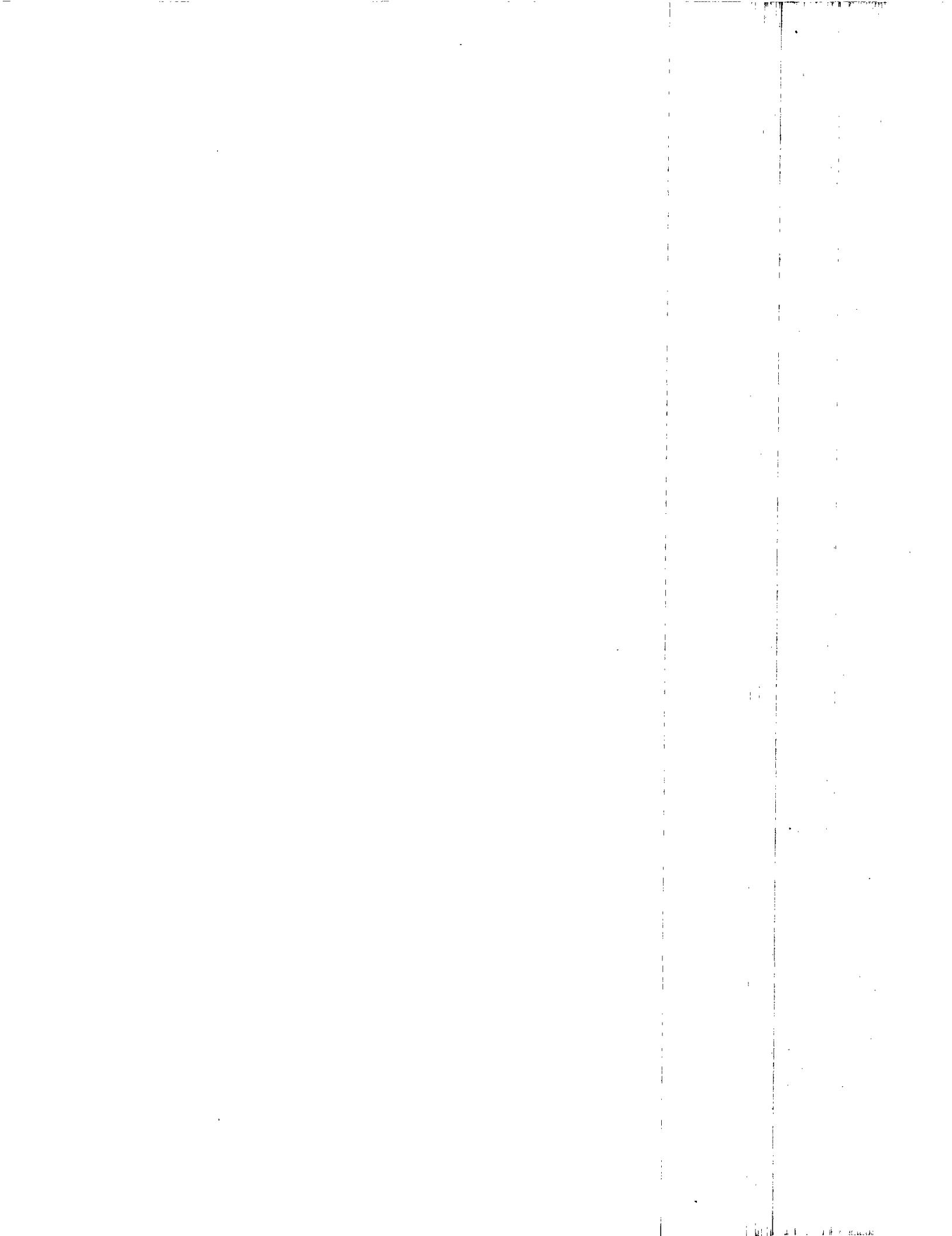
Requirement Citation: 40 CFR 63.7751(b)(8)(iv) and (vi)

¹ Deviation Period: Specify the following type of period for each deviation: Startup (S/U), Shutdown (SD), Malfunction (M) or Other (O)

² Deviation Code: Startup (S/U), Shutdown (SD), Control Equipment Problems (C), Process Problems (P), Other Known Causes (O), Unknown Cause (U)

³ Note: Deviation times are the beginning and end of deviation for the entire day. Various instances occur during the day of in and out of deviation.

⁴ Note: Percent of Operating Time



SECTION 4

NESHAP MMMMM SEMI-ANNUAL REPORT

The semi-annual reporting requirements for 40 CFR, Part 63, Subpart MMMMM - Surface Coating of Miscellaneous Metal Parts and Products are included in §63.3920 and are presented in Sections 4.1 through 4.11 below.

4.1 Company Name and Address [§63.3910(c)(1)]

<i>Mailing Address</i>	<i>Physical Address</i>
AB&I Foundry 7825 San Leandro Street Oakland, CA 94621	AB&I Foundry 7825 San Leandro Street Oakland, CA 94621

4.2 Statement by Responsible Official [§63.3910(c)(2)]

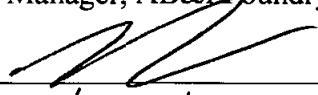
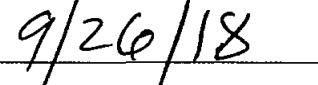
As the Responsible Official, I certify that the information in this report is true, accurate, and complete.

Name: Michael Lowe

Title: General Manager, AB&I Foundry

Signature:

Date:

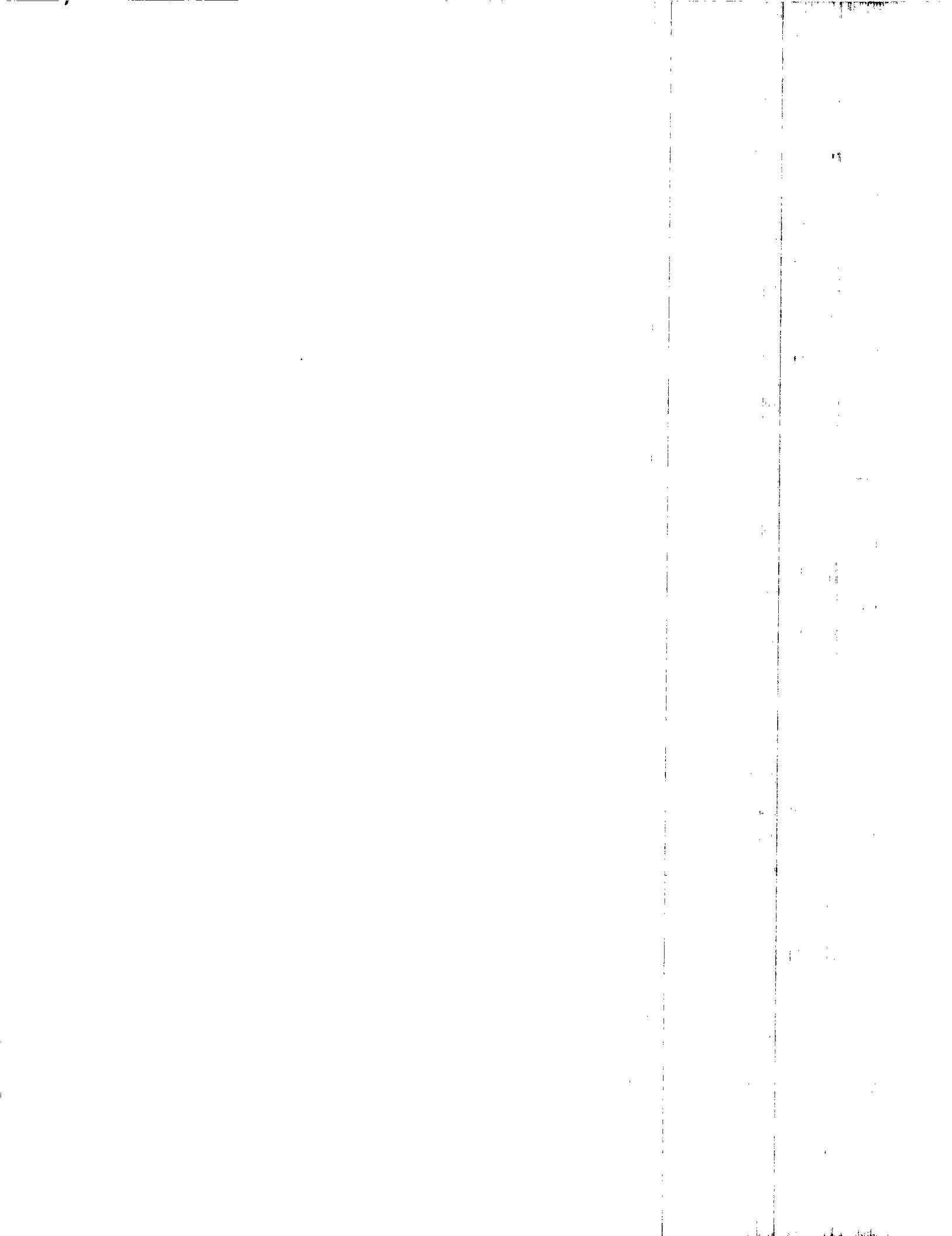



4.3 Reporting Period [§63.3910(c)(3)]

The reporting period is the compliance period as described in §63.3950 and begins on March 1, 2018 and ends on August 31, 2018.

4.4 Identification of the Compliance Option [§63.3910(c)(4)]

AB&I Foundry has opted to comply with "Compliant Material" as specified in §63.3891(a). AB&I Foundry demonstrated that, based on the coatings, thinners and/or other additives, and cleaning materials used in its coating operation(s), the organic hazardous air pollutants (HAP) emission rate for the coating operation(s) is less than or equal to the applicable emission limit in §63.3890(b)(1), calculated as a rolling 12-month emission rate and determined on a monthly basis.



4.5 Statement of Compliance for the Initial Compliance Period [§63.3910(c)(5)]

AB&I Foundry has demonstrated that the organic HAP emission rate for its coating operations is less than 0.31 kg (2.6 lb) organic HAP per liter (gal) coating solids used during each 12-month compliance period.

4.6 Deviations [§63.3910(c)(6)(i) and (ii)]

There were no deviations during the reporting period.

4.7 Demonstration of Compliance with the Compliant Material [§63.3910(c)(7)]

Attachment 4-1 contains copies of the data items listed in paragraphs (c)(7)(i) through (iv) of this section that is required by the compliance option “Compliant Coatings” to demonstrate compliance with the emission limit. The data includes an example of how AB&I Foundry determined the value, including calculations and supporting data.

4.8 Calculation of the 12-month Organic HAP Emission Rate [§63.3910(c)(8)(ii)]

Attachment 4-2 contains the calculation of the total mass of organic HAP emissions for each month and the calculation of the 12-month organic HAP emission rate of §63.3951.

4.9 Emission Rate with Add-On Controls [§63.3910(c)(9)]

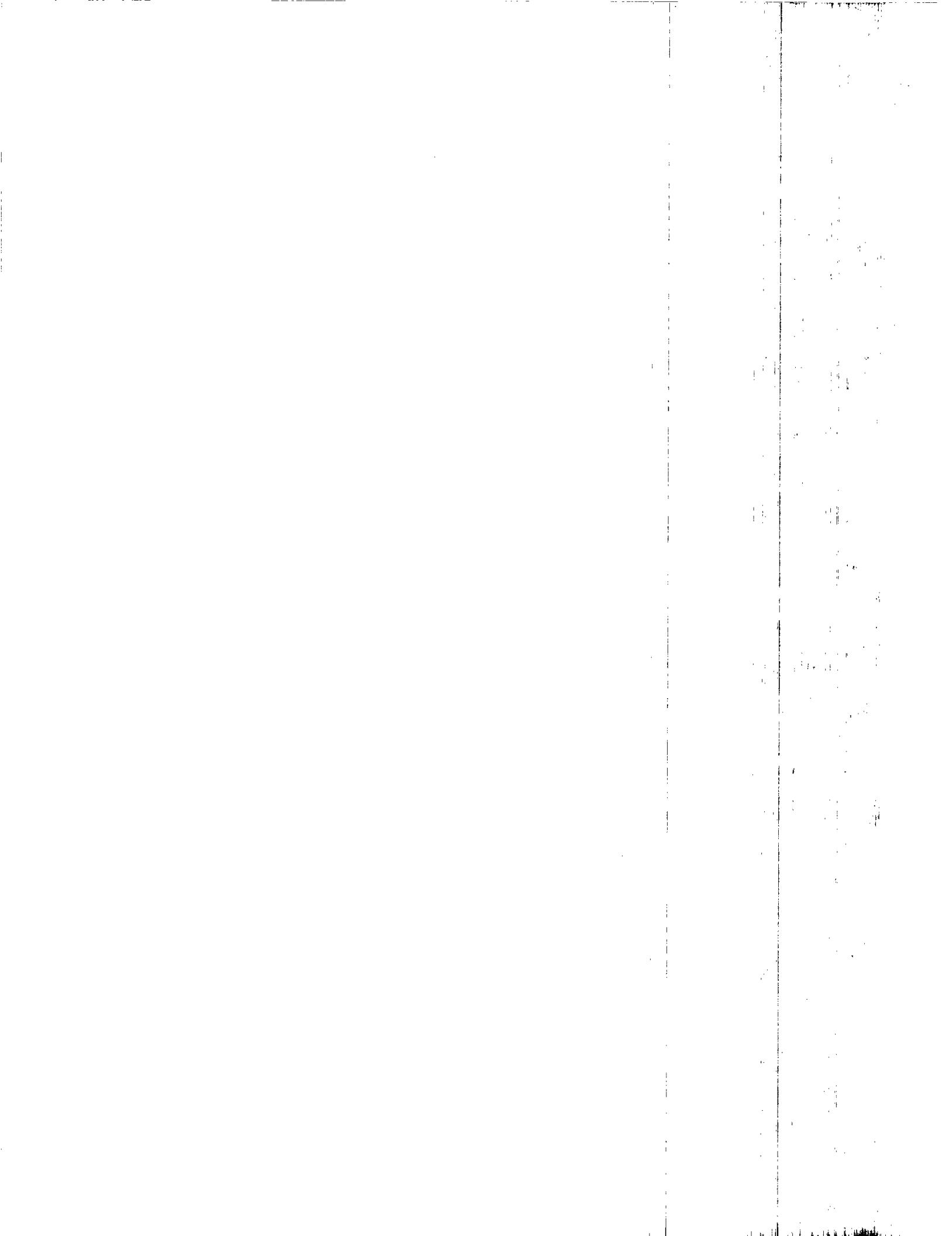
Not Applicable – There were no add-on controls installed.

4.10 Single Emission Limit for Predominant Activity [§63.3910(c)(10)]

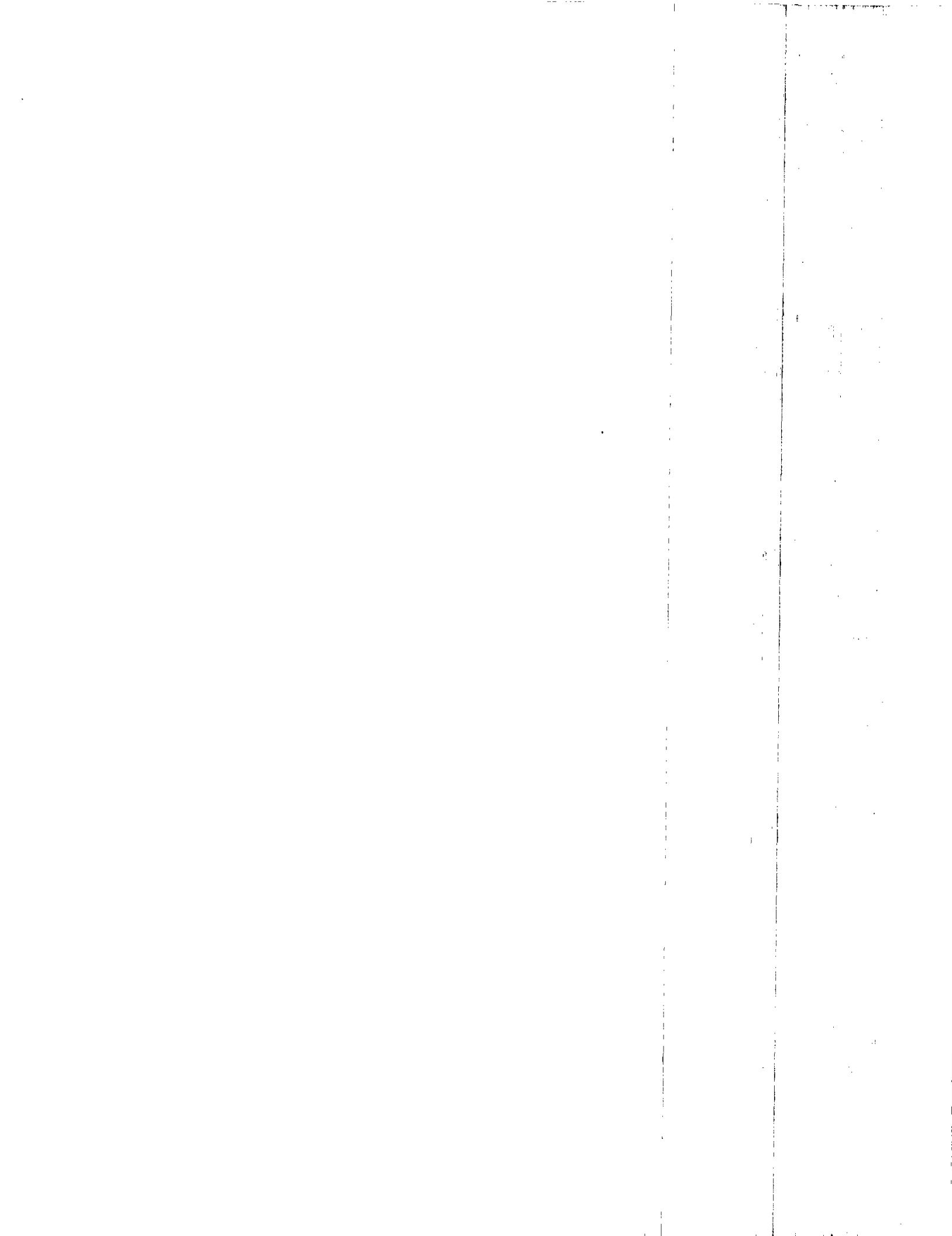
Not Applicable – AB&I Foundry does not adhere to a single emission limit representing predominant activity pursuant to §63.3890(c)(1).

4.11 Calculation of the 12-month Organic HAP Emission Rate [§63.3910(c)(11)]

Not Applicable – AB&I Foundry does not adhere to a facility-specific emission limit pursuant to §63.3890(c)(2).



Attachment 4-1
Surface Coating Supporting Data



ABI Foundry
MACT Mmmm Analysis

Hot Dip Pipe Coating - SAPC-100

Total Volatile Matter	
HAP	Wt %
Density	Wt %
VOC	8.68 lbs/gal

0.73%	Wt %
0.2%	Wt %
8.68	lbs/gal

$$V = 1 - (M_{\text{volatile}}/D_{\text{avg}})$$

M _{volatile}	0.06 lb/gal
D _{avg}	6.60 lb/gal

Volatile Matter	CAS #	Wt %	Density (lb/gal)	%	D average (lb/gal)
Synthetic Wetting Agents		10%		0%	0.00
Petroleum Asphalt	8052-42-4	85%	8.68	0.00	0.00
Formaldehyde	@ 500 F 50-00-0	0.08%	6.78	11%	0.74
Acetaldehyde	@ 500 F 75-07-0	0.15%	6.57	21%	1.35
Propionaldehyde	@ 500 F 123-38-6	0.05%	6.76	7%	0.46
Speciated Organic	@ 500 F Various (non-HAP)	0.45%	6.5	62%	4.04
		95.7342			6.60

$$V = (1 - (M_{\text{vol}}/D_{\text{avg}})) = \frac{0.9904 \text{ gal solids}}{\text{gal coating}}$$

Volume used per Month 11,066 gal/month

Mass HAPs = HAP wt% * Density * Monthly Volume

Total Volatile Solids = V * Monthly Volume

$$\text{Organic HAP @ 400 F} \quad \frac{0.00 \text{ lbs HAPs}}{\text{gal solids}}$$

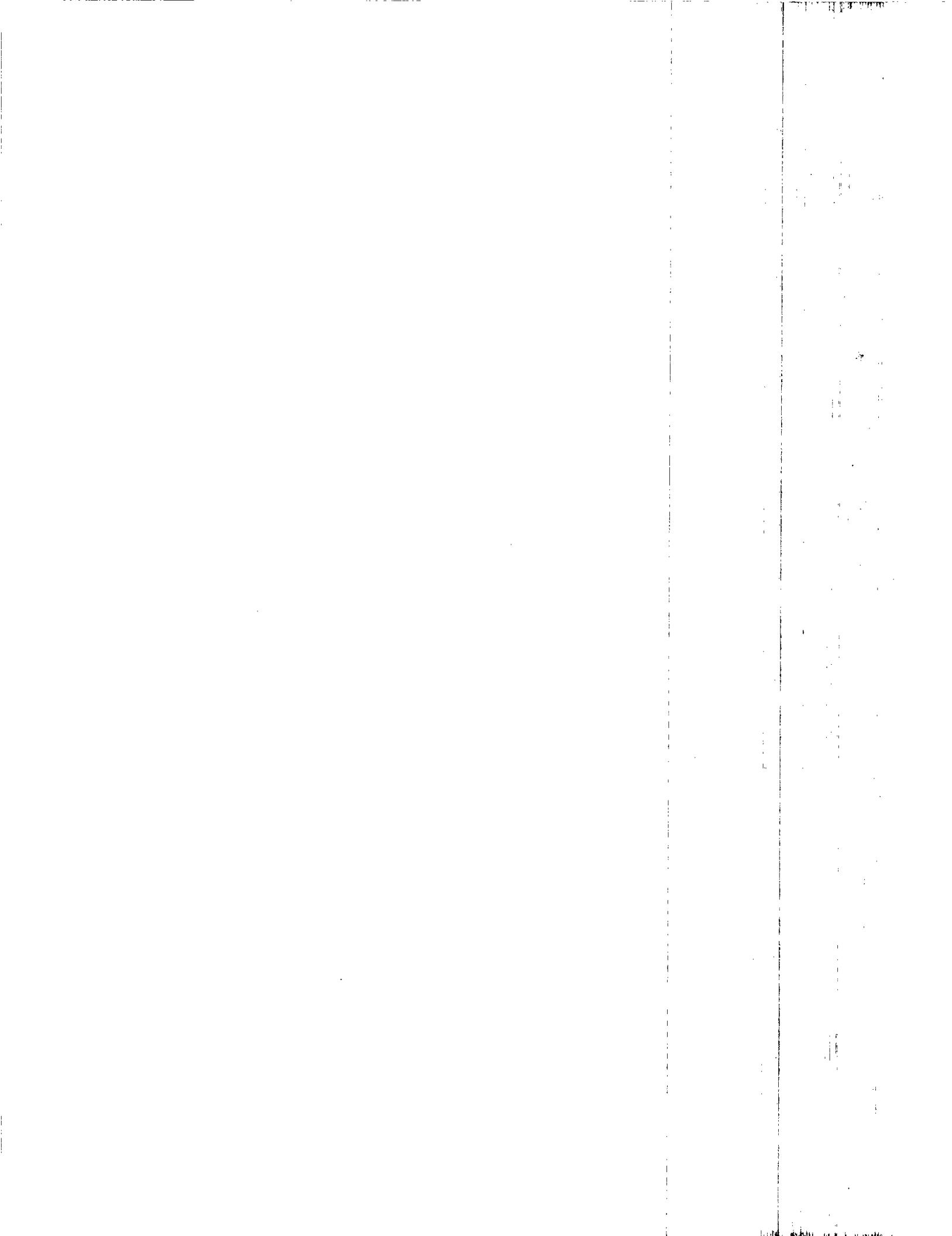
is less than

$$\text{Organic HAP @ 500 F} \quad \frac{0.02 \text{ lbs HAPs}}{\text{gal solids}}$$

Limit of 500° F on pipe dip

$$\frac{\text{lbs HAPs}}{\text{gal solids}} \text{ Standard}$$

$$2.6 \quad \frac{\text{lbs HAPs}}{\text{gal solids}}$$



ABI Foundry
MACT MMMM Analysis

Promar Exterior Satin - "Tyler Blue"

Total Volatile Matter

HAP

Density

VOC

74%	Wt %
0%	Wt %
.81	lbs/gal
0.77	lbs/gal

$$V=1-(M_{\text{volatile}})/D_{\text{avg}}$$

M_{volatile}

6.52	lb/gal
8.35	lb/gal

D_{avg}

Volatile Matter	CAS #	Wt %	Density		D average (lb/gal)
			1%	9	
Heavy Paraffinic Oil	64742-54-7	1%	9	1%	0.12
Water		73%	8.34	99%	8.23
		74		8.35	

$$V = (1 - (M_{\text{vol}}/D_{\text{avg}})) =$$

$$\frac{0.2191 \text{ gal solids}}{\text{gal coating}}$$

Volume used per Month

$$11.67 \text{ gal/month}$$

$$\text{Mass HAPs} = \text{HAP wt\%} * \text{Density} * \text{Monthly Volume}$$

$$0.00 \frac{\text{lbs HAPs}}{\text{month}}$$

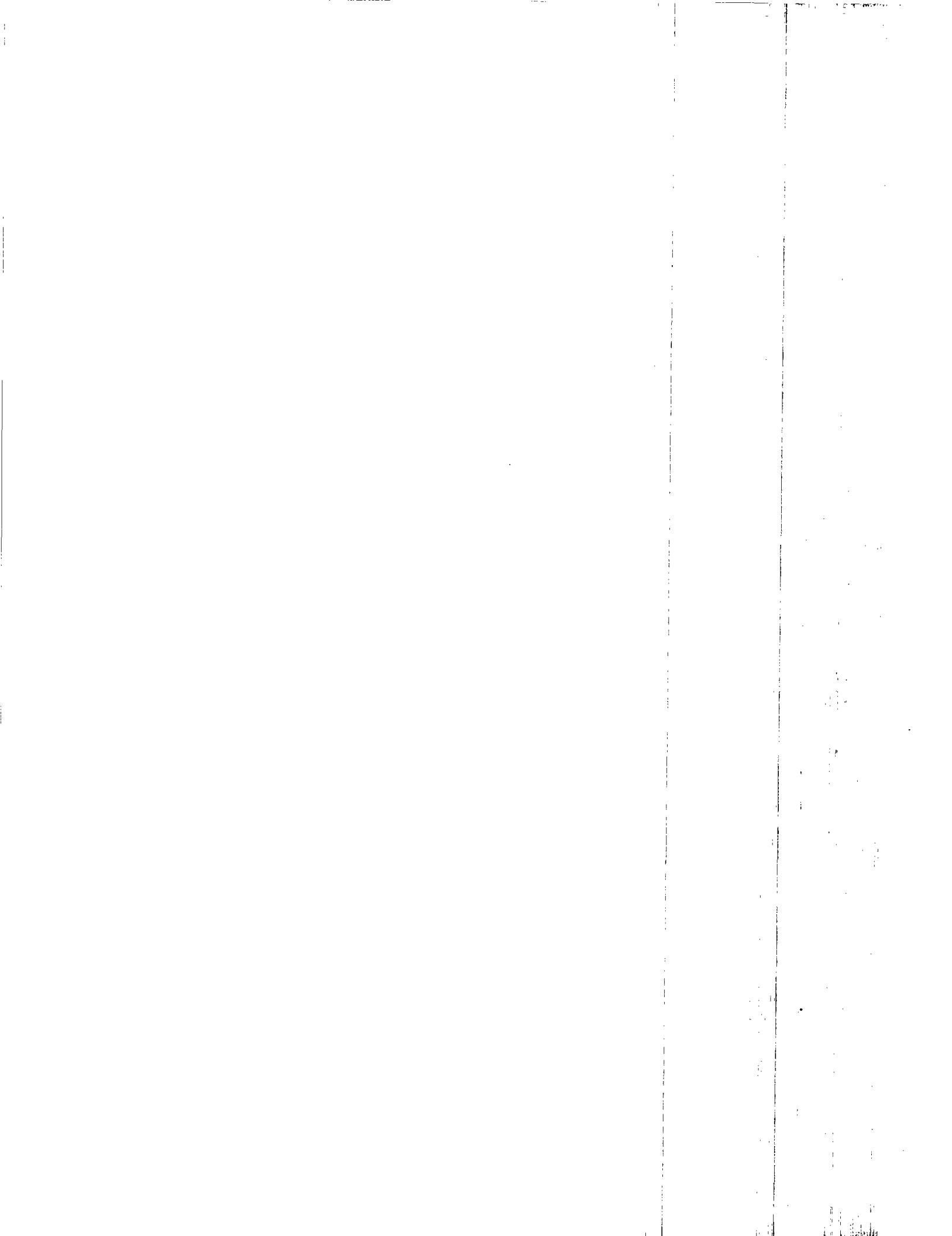
$$2.56 \frac{\text{gal solids}}{\text{month}}$$

$$2.6 \frac{\text{lbs HAPs}}{\text{gal solids}} \text{ Standard}$$

$$\text{Total Volatile Solids} = V * \text{Monthly Volume}$$

$$0.00 \frac{\text{lbs HAPs}}{\text{gal solids}}$$

$$is less than$$



ABI Foundry
MACT MMMM Analysis

Stiles 1164- Aluminum "ABI Silver"

Total Volatile Matter	72%	Wt %
HAP	0%	Wt %
Density	8.88	lbs/gal
VOC	2.84	lbs/gal

$V = 1 - (M_{\text{volatile}}/D_{\text{avg}})$

M _{volatile}	6.40	lb/gal
D _{avg}	8.17	lb/gal

Volatile Matter	CAS #	Wt %	Density (lb/gal)	%	D average (lb/gal)
2-Butoxyethanol	111-76-2	5.0%	7.5	7%	0.52
Ammonium Hydroxide	1336-21-6	5.0%	7.59	7%	0.53
HEXYLENE GLYCOL	107-41-5	0.5%	7.67	1%	0.05
NON-LEAFING ALUMINUM PASTE		10%	8	14%	1.1
Water		52%	8.34	71%	5.96
			72		8.17

$V = (1 - (M_{\text{vol}}/D_{\text{avg}})) =$

$$\frac{0.2158 \text{ gal solids}}{\text{gal coating}}$$

gal/month

Volume used per Month

$$0.00 \frac{\text{lbs HAPs}}{\text{month}}$$

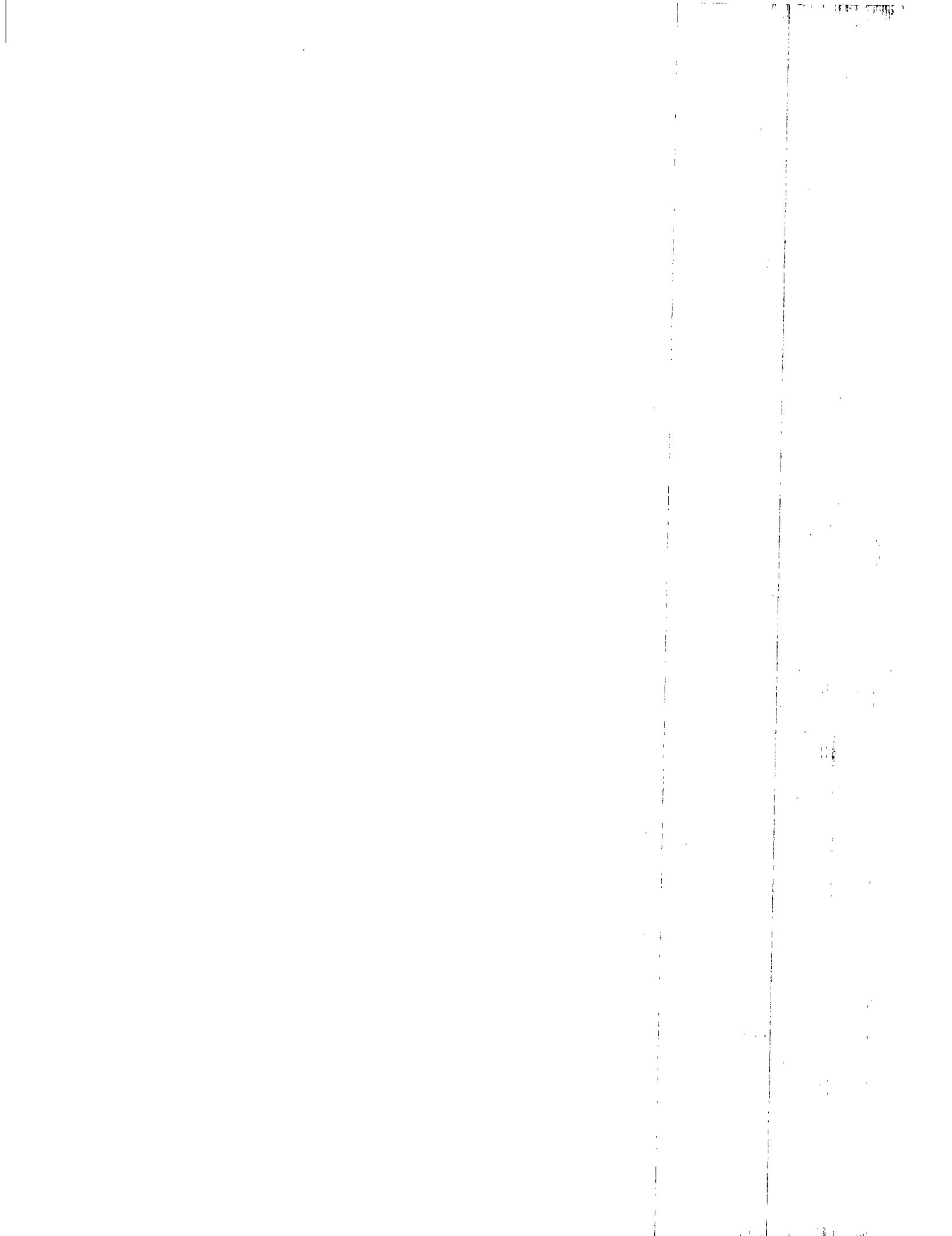
Mass HAPs = HAP wt% * Density * Monthly Volume

Total Volatile Solids = V * Monthly Volume

$$4.68 \frac{\text{gal solids}}{\text{month}}$$

Organic HAP

$$0.00 \frac{\text{lbs HAPs}}{\text{gal solids}} \quad \text{is less than} \quad 2.6 \frac{\text{lbs HAPs}}{\text{gal solids}} \quad \text{Standard}$$



ABI Foundry
MACT MMMM Analysis

White Pigmented Ink - SCP-920A

Total Volatile Matter
HAP
 Density
 VOC

70.00%	Wt %
0.0%	Wt %
9.74	lbs/gal
0.42	lbs/gal

$$V=1-(M_{\text{volatile}})/D_{\text{avg}}$$

M_{volatile}
 D_{avg}

$$\begin{aligned} &6.82 \text{ lb/gal} \\ &6.71 \text{ lb/gal} \end{aligned}$$

Volatile Matter	CAS #	Wt %	Density (lb/gal)	% D average (lb/gal)
Acetone	67-64-1	45%	6.5649	64% 4.22
Tertiary Butyl Acetate	540-88-5	15%	7.18815	21% 1.54
Methyl Ethyl Ketone (MEK)*	78-93-3	5%	6.7311	7% 0.48
Isopropanol	67-63-0	5%	6.5649	7% 0.47
20% solids per manufacturer		70%		

*MEK no longer listed as an HAP per EPA (40 CFR Part 63 [OAR-2003-0028, FRL-8009-5] RIN: 2060-A172)
 6.71

$$V = (1 - (M_{\text{vol}}/D_{\text{avg}})) = \frac{-0.0160 \text{ gal solids}}{\text{gal coating}}$$

$$\text{Volume used per Month} \quad \boxed{65.00} \text{ gal/month}$$

$$\text{Mass HAPs} = \text{HAP wt\%} * \text{Density} * \text{Monthly Volume}$$

$$0.00 \frac{\text{lbs HAPs}}{\text{month}}$$

$$\text{Total Volatile Solids} = V * \text{Monthly Volume}$$

$$-1.04 \frac{\text{gal solids}}{\text{month}}$$

$$\text{Organic HAP} \quad \boxed{0.00} \frac{\text{lbs HAPs}}{\text{gal solids}}$$

$$\text{is less than} \quad 2.6 \quad \boxed{2.6} \frac{\text{lbs HAPs}}{\text{gal solids}} \text{ Standard}$$



ABI Foundry
MACT MMMM Analysis

White Ink Cleaner - Acetone

Total Volatile Matter

HAP

Density

VOC

100%	Wt %
0%	Wt %
6.56	lbs/gal
0	lbs/gal

V=1-(Mvolatile)/Davg

Mvolatile

6.56 lb/gal
6.56 lb/gal

Davg

Volatile Matter	CAS #	Wt %	Density (lb/gal)	D average (lb/gal)
Acetone	67-64-1	100%	6.5649	100%
		100	6.56	

V = (1-(Mvolatile/Davg)) =

0.00 gal solids
gal coating

Volume used per Month

1.67 gal/month

Mass HAPs = HAP wt% * Density * Monthly Volume

0.00 lbs HAPs
month

Total Volatile Solids = V * Monthly Volume

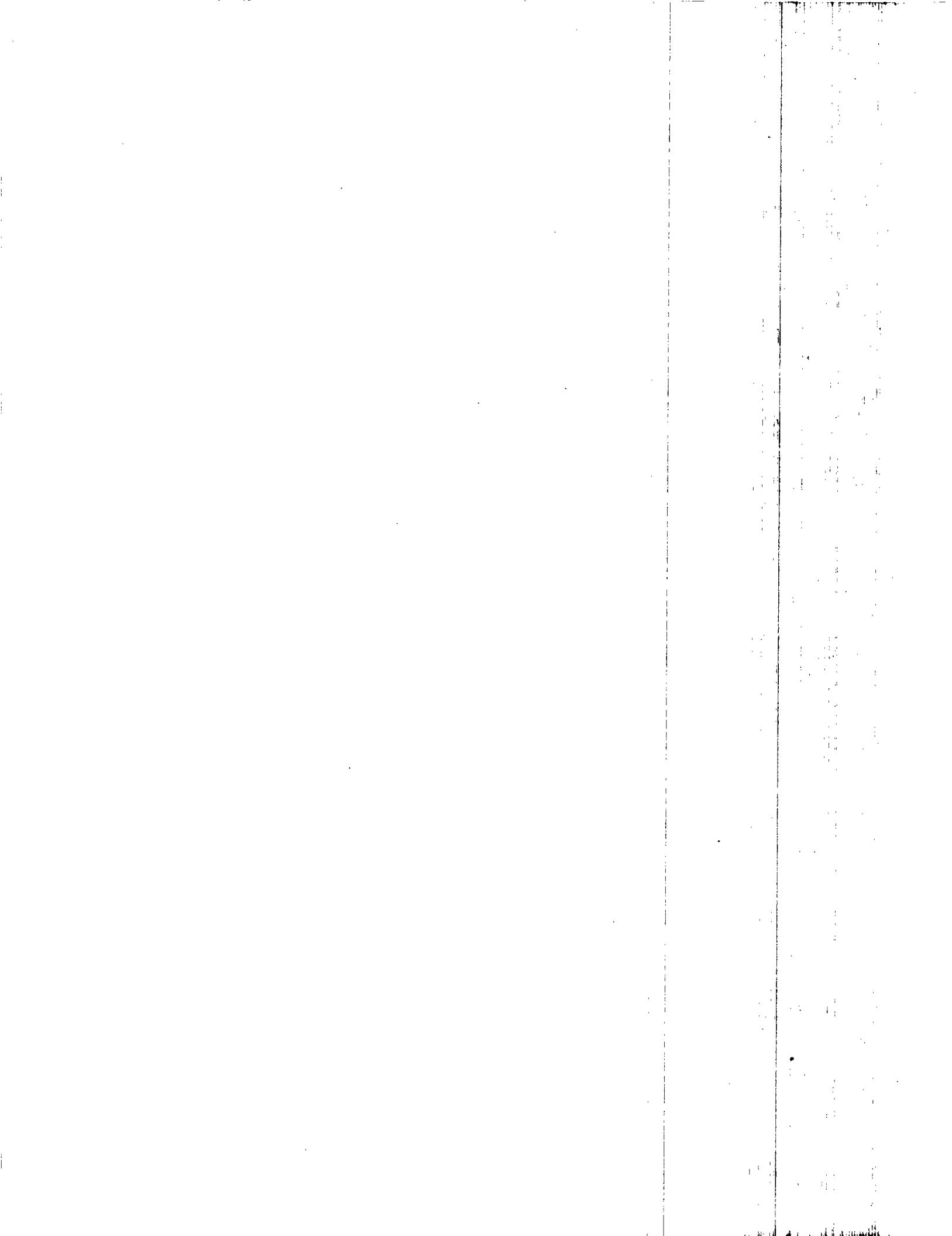
0.00 gal solids
month

Organic HAP

0.00 lbs HAPs
gal solids

is less than

2.6 lbs HAPs
gal solids Standard



ABI Foundry
MACT MMMM Analysis

Fitting Dip - MPFC-D8D

Total Volatile Matter
HAP
 Density
 VOC

6% Wt %	Wt %
0%	
8.48 lbs/gal	lbs/gal

$$V=1-(M_{\text{volatile}})/D_{\text{avg}}$$

M_{volatile}
 D_{avg}

$$\frac{0.51 \text{ lb/gal}}{8.48 \text{ lb/gal}}$$

Volatile Matter	CAS #	Wt %	Density (lb/gal)	D average (lb/gal)
Asphalt, Petroleum	8052-42-4	6%	8.48	100% 8.48
		6		8.48

$$V = (1 - (M_{\text{vol}}/D_{\text{avg}})) =$$

$$\frac{0.9400 \text{ gal solids}}{\text{gal coating}}$$

Volume used per Month

$$2,154 \text{ gal/month}$$

Mass HAPs = HAP wt% * Density * Monthly Volume

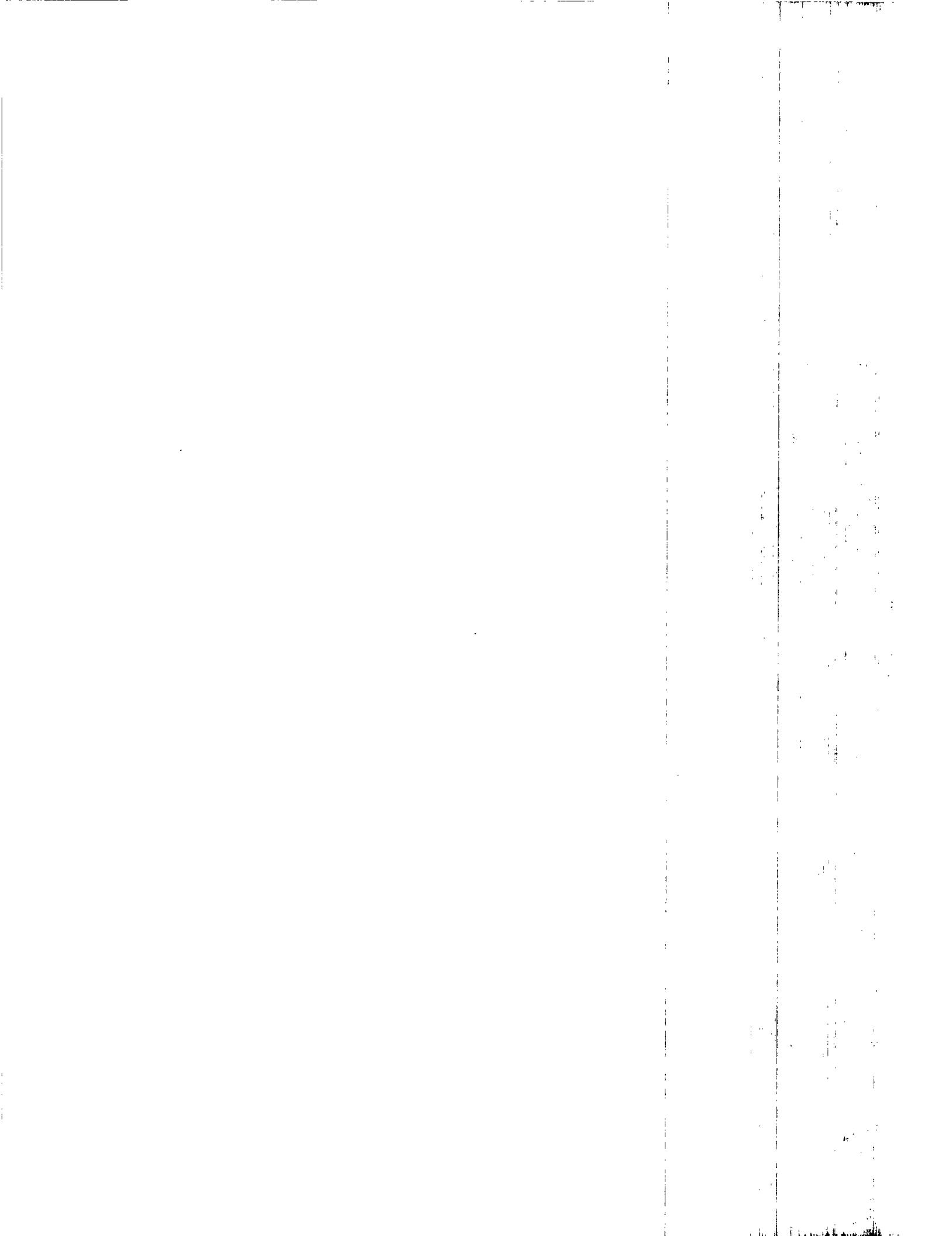
$$0.00 \text{ lbs HAPs} \frac{\text{month}}{\text{month}}$$

Total Volatile Solids = V * Monthly Volume

$$2024.82 \text{ gal solids} \frac{\text{month}}{\text{month}}$$

Organic HAP

$$0.00 \text{ lbs HAPs} \frac{\text{gal solids}}{\text{gal solids}} \text{ is less than } 2.6 \text{ lbs HAPs} \frac{\text{Standard}}{\text{gal solids}}$$



ABI Foundry
MACT MMMM Analysis

Rust Inhibitor-Black

Total Volatile Matter
HAP
 Density
 VOC

65% Wt %
0% Wt %
.1120 lbs/gal

(weigh container)

V=1-(Mvolatile)/Davg

Mvolatile
 Davg
 7.28 lb/gal
 8.31 lb/gal

Volatile Matter	CAS #	Wt %	Density (lb/gal)	D average (lb/gal)
Ethyleneglycol N-Butyl Ether	111-76-2	5%	7.923	8% 0.61
Deionized water	7732-18-5	60%	8.34	92% 7.70
		65		8.31

$$V = (1 - (M_{\text{vol}}/D_{\text{avg}})) =$$

$$\frac{0.1235 \text{ gal solids}}{\text{gal coating}}$$

Volume used per Month

gal/month

Mass HAPs = HAP wt% * Density * Monthly Volume

0.00 month

Total Volatile Solids = V * Monthly Volume

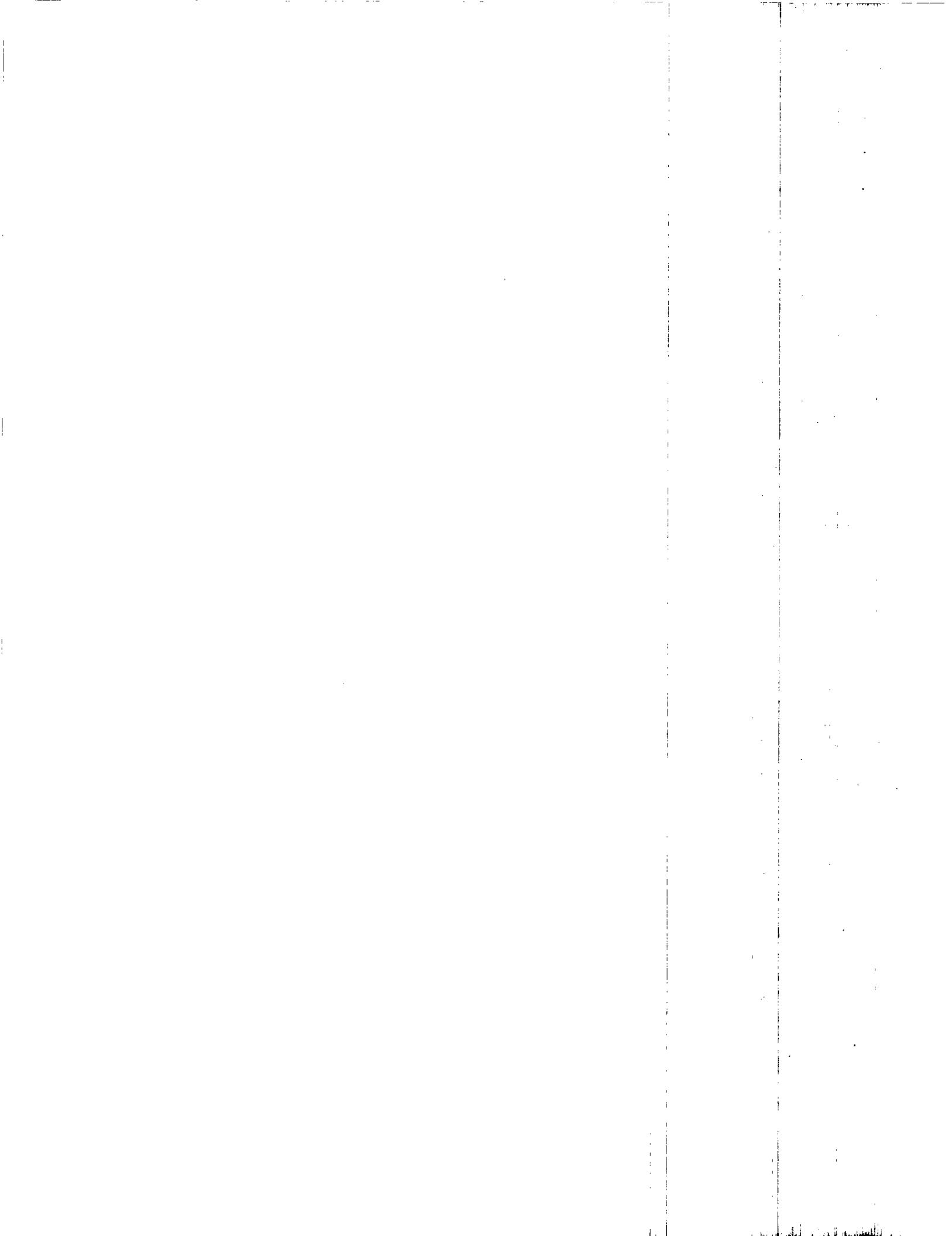
1.11 month

Organic HAP

gal solids

is less than

2.6 Standard



ABI Foundry
MACT MMMM Analysis

ST-1722 Med Gray

Total Volatile Matter	Wt %
HAP	0%
Density	12.10 lbs/gal
VOC	0.69 lbs/gal

$$V = 1 - (M_{\text{volatile}}/D_{\text{avg}})$$

M _{volatile}	6.38 lb/gal
D _{avg}	8.46 lb/gal

Volatile Matter	CAS #	Wt %	Density (lb/gal)	D average (lb/gal)
2-Butoxyethanol	111-76-2	5%	7.506	9%
2-Amino-2-Methyl-1-Propanol	124-68-5	0.5%	7.79	1%
Water		49%	8.34	92%
		54		8.46

$$V = (1 - (M_{\text{vol}}/D_{\text{avg}})) =$$

$$\frac{0.2464 \text{ gal solids}}{\text{gal coating}}$$

$$\text{Volume used per Month} \quad \boxed{0.83} \text{ gal/month}$$

$$\text{Mass HAPs} = \text{HAP wt\%} * \text{Density} * \text{Monthly Volume}$$

$$0.00 \frac{\text{lbs HAPs}}{\text{month}}$$

$$\text{Total Volatile Solids} = V * \text{Monthly Volume}$$

$$0.20 \frac{\text{gal solids}}{\text{month}}$$

$$\text{Organic HAP} \quad \frac{0.00 \text{ lbs HAPs}}{\text{gal solids}} \quad \text{is less than} \quad \boxed{2.6} \quad \frac{\text{lbs HAPs}}{\text{gal solids}} \quad \text{Standard}$$

ABI Foundry
MACT MMMM Analysis

ST-1688 Satin Gray

Total Volatile Matter	54%	Wt %
HAP	0%	Wt %
Density	11.44	lbs/gal
VOC	0.88	lbs/gal

$$V = 1 - (M_{\text{volatile}})/D_{\text{avg}}$$

M _{volatile}	6.17 lb/gal
D _{avg}	8.27 lb/gal

Volatile Matter	CAS #	Wt %	Density (lb/gal)	D average (lb/gal)
2-butoxyethanol	111-76-2	5%	7.506	9%
2-Amino-2-Methyl-1-Propanol	124-68-5	0.5%	7.79	1%
Water		49%	8.34	90%
		54		8.27

$$V = (1 - (M_{\text{volatile}})/D_{\text{avg}})) =$$

$$\frac{0.2549 \text{ gal solids}}{\text{gal coating}}$$

Volume used per Month

$$\boxed{2.00} \text{ gal/month}$$

Mass HAPs = HAP wt% * Density * Monthly Volume

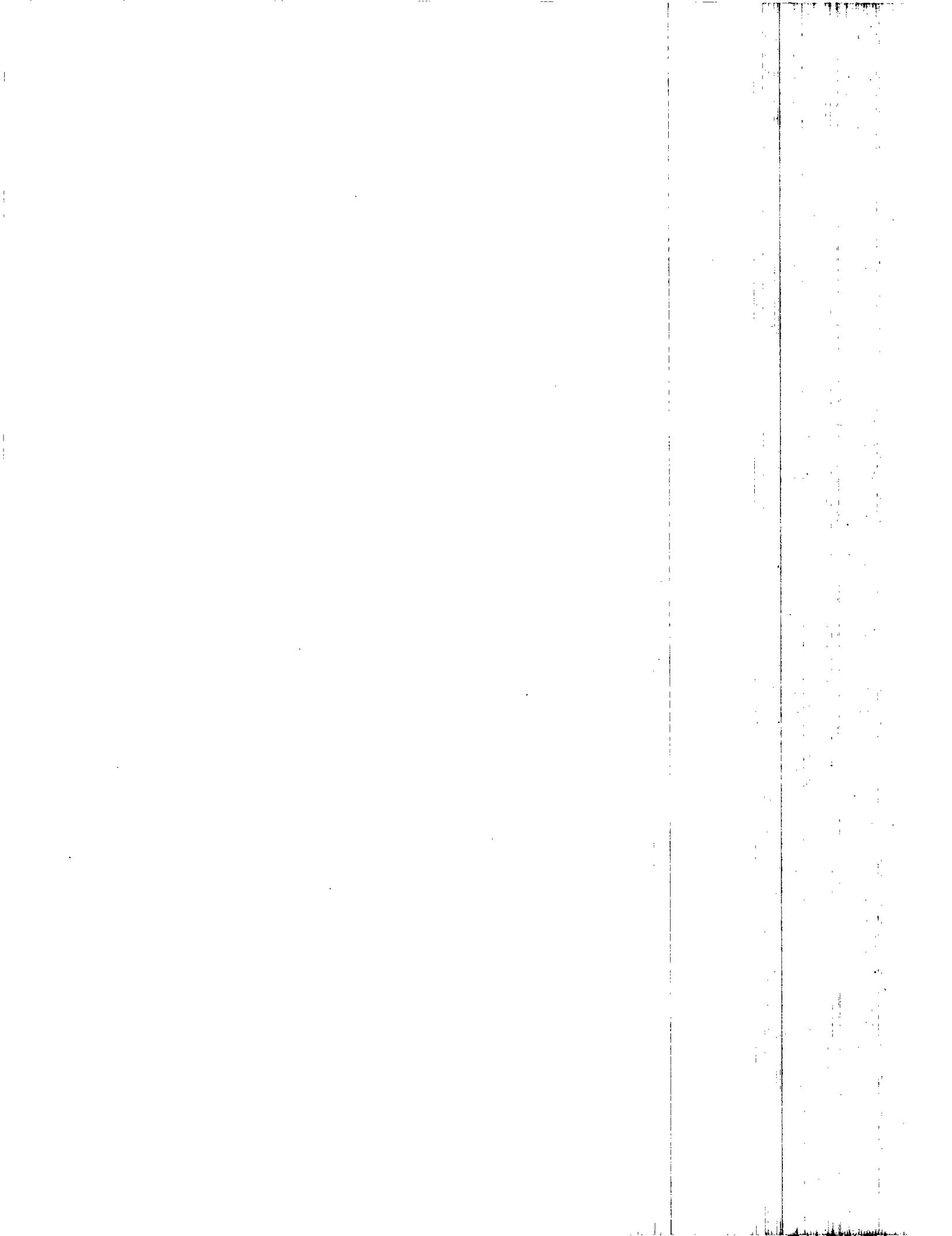
$$0.00 \frac{\text{lbs HAPs}}{\text{month}}$$

Total Volatile Solids = V * Monthly Volume

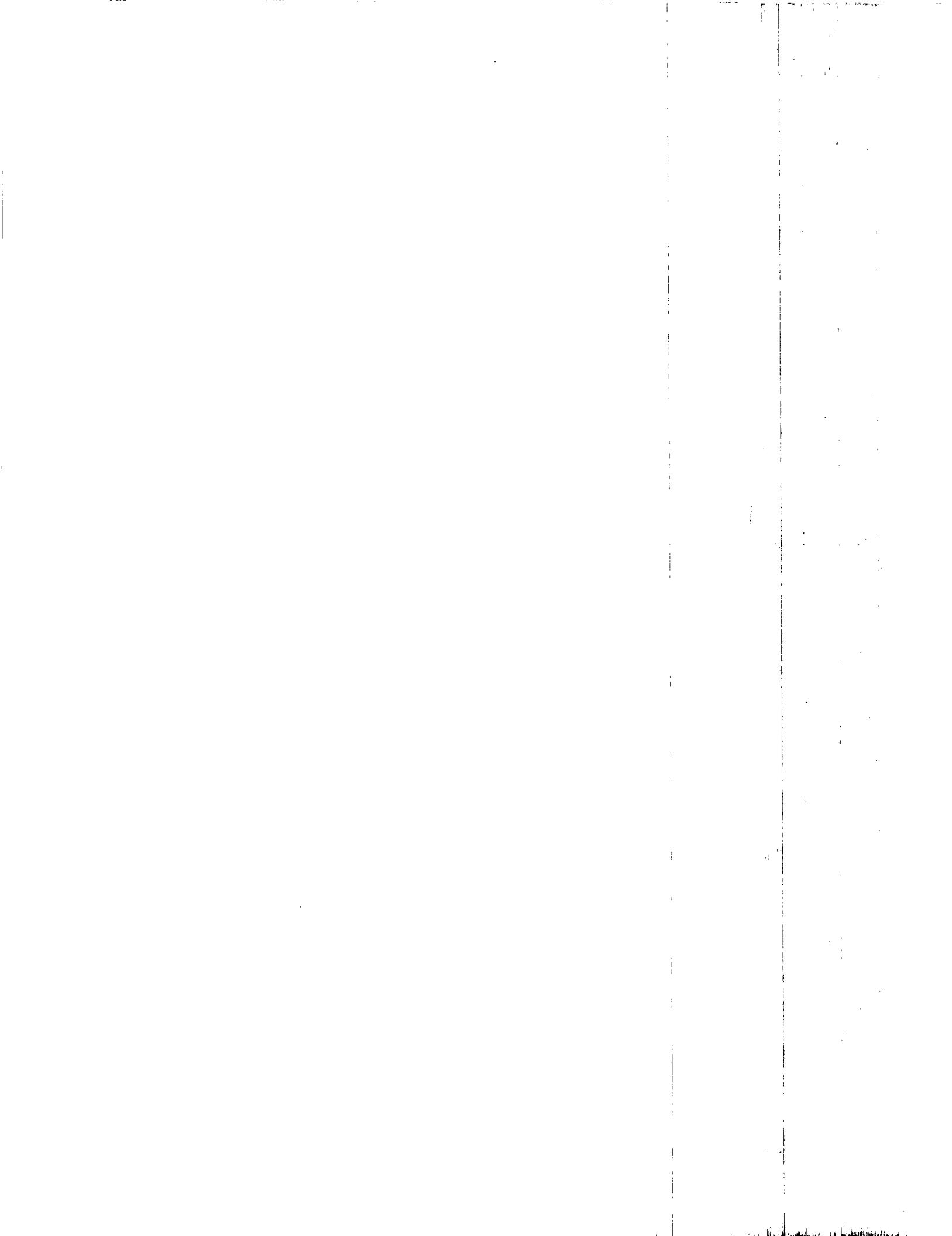
$$0.51 \frac{\text{gal solids}}{\text{month}}$$

Organic HAP

$$\frac{0.00 \text{ lbs HAPs}}{\text{gal solids}} <= \frac{2.6}{\frac{\text{lbs HAPs}}{\text{gal solids}}} \text{ Standard}$$

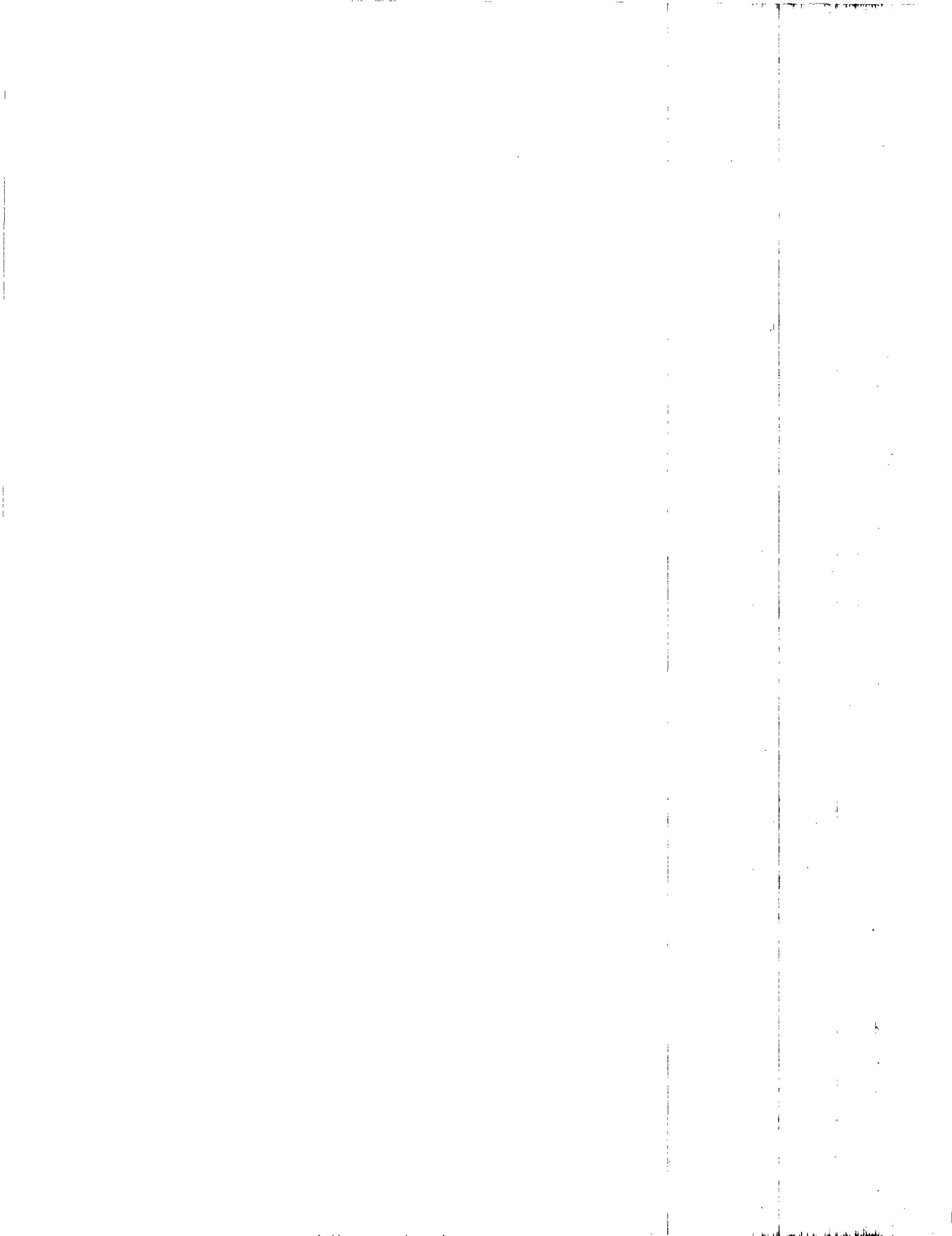


Attachment 4-2
Surface Coating Monthly Usage



SURFACE COATING MACT M
Monthly Usage (gallons)

Total HAP/month (pounds)	12-Month Organic HAP (lbs HAP/gal solids)	Tyler Blue	Silks 1164-Aluminum	White Ink (SCP-920A)	Filling Drip (SCP-900C)	RI-Black	ST-1722 Gray	ST-1688 Satin Gray	SCP-C-100 Hot Dip <500 F	SCP-C-100 Hot Dip ≥500 F	SAPC-100 Hot Dip ≥500 F
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
0.00	Jan-18	5	55	6	1,100	4.5	0	19	5,172	0	0
0.00	Feb-18	5	10	50	2	1,925	3.5	12	0	9,674	0
0.00	Mar-18	5	50	1	1,375	6	0	7	8,386	0	0
0.00	Apr-18	15	20	55	2	2,200	9	0	0	15,433	0
0.00	May-18	15	25	80	2	3,025	13	0	0	11,623	0
0.00	Jun-18	15	25	45	1	2,475	10	0	0	7,206	0
0.00	Jul-18	5	20	75	2	1,925	16	0	0	9,987	0
0.00	Aug-18	15	35	85	2	1,925	0	5	5	13,760	0



**SOURCE TEST REPORT
2018 VISIBLE EMISSIONS EVALUATION TESTS
AB&I FOUNDRY
OAKLAND, CALIFORNIA**

Prepared For:

AB&I Foundry
7825 San Leandro Street
Oakland, California 94621

For Submittal To:

Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, California 94105

Prepared By:

Montrose Air Quality Services, LLC
2825 Verne Roberts Circle
Antioch, California 94509

Document Number: 005AS-443235-RT-163
Test Date: July 3, 2018
Submittal Date: July 23, 2018

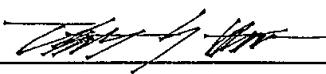


REVIEW AND CERTIFICATION

All work, calculations, and other activities and tasks performed and documented in this report were carried out by me or under my direction and supervision. I hereby certify that to the best of my knowledge, Montrose operated in conformance with the requirements of the Montrose Quality Manual and ASTM D7036-04 during this test project.

Name: Jonathan Stanton, QSTI

Title: Field Project Manager

Sign: 

Date: 07/24/2018

I have reviewed, technically and editorially, details, calculations, results, conclusions, and other appropriate written materials contained herein. I hereby certify that to the best of my knowledge the presented material is authentic and accurate and conforms to the requirements of the Montrose Quality Manual and ASTM D7036-04.

Name: Dan Duncan

Title: QA/QC Manager

Sign: 

Date: 07/23/2018

Int. 

Test Report Prepared by: Patrick Switzer

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1.0 INTRODUCTION AND SUMMARY

1.1 PROGRAM OBJECTIVES

Montrose Air Quality Services, LLC (Montrose) was contracted by AB&I Foundry (AB&I) to perform a visual evaluation of emissions at the AB&I facility located in Oakland, California. The tests were conducted to demonstrate compliance with the conditions as set forth in the permit issued to AB&I by the Bay Area Air Quality Management District (BAAQMD).

The testing was conducted by Jonathan Stanton of Montrose on July 3, 2018. Andrew Berg of AB&I coordinated the testing program. Montrose performed the tests to measure the following emission parameters:

- Disa 270 Pour Line:
 - Visible Emission (% opacity)
- Cupola:
 - Visible Emission (% opacity)

This report presents the test results and supporting data, descriptions of the testing procedures, descriptions of the facility and sampling locations, and a summary of the quality assurance procedures used by Montrose. The average emission test results are summarized and compared to their respective permit limits in Table 1-1. Detailed results for individual test runs can be found in Section 5.0. All supporting data can be found in the appendices.

Both qualitative and quantitative factors contribute to field measurement uncertainty and should be taken into consideration when interpreting the results contained within this report. Whenever possible, Montrose personnel reduce the impact of these uncertainty factors by using approved and validated test methods. In addition, Montrose personnel perform routine instrument and equipment calibrations and ensure that the calibration standards, instruments, and equipment used during test events meet, at a minimum, test method specifications as well as the specifications of our Quality Manual and ASTM D 7036-04. The limitations of the various methods, instruments, equipment, and materials utilized during this test have been reasonably considered, but the ultimate impact of the cumulative uncertainty of this project is not fully identified within the results of this report.

AB&I Foundry
2018 Visible Emissions Evaluation Tests

TABLE 1-1
SUMMARY OF AVERAGE VISIBLE EMISSIONS RESULTS
AB&I FOUNDRY
JULY 3, 2018

Parameter	Disa 270 Pouring Line	Cupola	Emission Limit
Visible Emissions, % opacity:			
3-hour average	0.3	0.7	--
Maximum 6-minute interval	1.3	1.9	20 ^a
Number of intervals > 27%	0	0	--
Number of intervals >20%<27%	0	0	--
Pass/Fail status	Pass	Pass	--

Note: The number of intervals is per 1-hour test. Emission limits are specified in 40 CFR 63.7690(a)(7).

^a 40 CFR Part 63 Subpart EEEEE states (NESHAP for iron and steel foundries): "For each building or structure housing any iron and steel foundry emissions source at the iron and steel foundry, you must not discharge any fugitive emissions to the atmosphere from foundry operations that exhibit opacity greater than 20 percent (6-minute average), except for one 6-minute average per hour that does not exceed 27 percent opacity."

1.2 PROJECT CONTACTS

A list of project participants is included below:

Facility Information

Source Location: AB&I Foundry
7825 San Leandro Street
Oakland, California 94621

Project Contact: Mr. Andrew Berg
Company: AB&I
Telephone: (510) 633-5220
Email: andy.berg@abifoundry.com

Testing Company Information

Testing Firm: Montrose Air Quality Services, LLC (Montrose)
Contact: Mr. Jonathan Stanton, QSTI
Title: Field Project Manager
Telephone: (619) 994-7874
Email: jstanton@montrose-env.com

2.0 SOURCE LOCATION INFORMATION

2.1 FACILITY DESCRIPTION

AB&I Foundry is located in Oakland California. The facility casts pipe and fittings as well as custom castings from recycled iron.

The AB&I Foundry facility uses a 96" water cooled, hot blast cupola to melt recycled iron. The material is then transferred to the facility's 60 ton Inductotherm furnace and 4 Liquimetrics pouring furnaces. The iron is then used in the core, pipe, and molding machines to cast pipe, fittings, and custom castings.

2.2 SAMPLING LOCATIONS

Exhaust gases from the Disa 270 pour line are discharged to atmosphere through a vertical, cylindrical stack. Observations were made as 'fugitive emissions' escaped from the covered area containing the pour line.

Exhaust gases from the cupola are discharged to atmosphere through a vertical, cylindrical stack. Observations were made as 'fugitive emissions' escaped from the trap-door area where raw material is introduced.

3.0 TEST DESCRIPTION

3.1 PROGRAM OBJECTIVES

Montrose performed a series of tests to quantify the visible emissions from the outlet of the Disa 270 Pouring Line and the Cupola. The testing program was conducted to determine compliance with biannual permit conditions of the BAAQMD permit to operate.

3.2 TEST CONDITIONS

Emission tests were performed while the processes were operating under normal production conditions. The Cupola melt rate during these tests was 38.5 tons/hour.

3.3 TEST PROGRAM SCHEDULE

The test program schedule is presented in Table 3-1.

**TABLE 3-1
TEST MATRIX AND SCHEDULE**

Date	Source ID/ Activity	Sample Runs	Sample Duration
July 3, 2018	DISA 270 Pouring Line VE	1, 2, 3	60 minutes
	Cupola VE	1, 2, 3	60 minutes

3.4 MONTROSE TEST PROCEDURES

The test procedures used for this test program are summarized in Table 3-2 below. Additional information regarding specific applications or modifications to standard procedures is presented in the following sub-sections.

**TABLE 3-2
TEST PROCEDURES**

Parameter	Measurement Principle	Reference Method
Opacity	Visual observation	EPA 9

3.4.1 Visible Emissions

Visible emissions were determined from the stack according to EPA Method 9. Pertinent information regarding the performance of the methods is presented below:

- CARB Certified Observer – Jonathan Stanton.
- Operating Conditions During Observations – Normal (refer to Section 3.2).
- Observation Frequency – stack opacity readings recorded once every 15 seconds for each test run.
- Test Run duration – Three 60-minute test runs for each emission point.
- Results Format – average percent opacity for each 6-minute interval observed during each test run.

3.4.2 Process Data

There was no pertinent process data for this test program.

4.0 QUALITY ASSURANCE AND REPORTING

4.1 SAMPLING AND ANALYTICAL QA/QC

Montrose has instituted a rigorous QA/QC program for all of its air pollution testing. Quality assurance audits are performed as part of the test program to ensure that the final results are calculated from the highest quality data. The program ensures that the emission data reported are as accurate as possible. The procedures included in the cited reference methods were followed for all steps of preparation, sampling, calibration, and analysis. Montrose was responsible for preparation, calibration and cleaning of the sampling apparatus. Montrose also conducted the sampling and sample recovery, storage, and shipping.

4.2 QUALITY CONTROL PROCEDURES

Our Quality Assurance Program Summary, located in Appendix A, provides our equipment maintenance and calibration schedule, quality control acceptance limits, and any corrective action that may be needed. For additional quality control, Montrose followed the procedures outlined below and in the method write-ups in Section 3.4.

4.3 DATA ANALYSIS, VALIDATION, AND UNCERTAINTY

The raw data collected during the sampling and analysis procedures were used to calculate the results of the testing program. The analysis or reduction of the data to the final results followed these steps, where appropriate to the test method:

- Check field-sampling data for accuracy and calculate appropriate data averages (e.g., temperatures, pressures, volumes, etc.).
- Double check calculation of the data averages.
- Review all in-house and contract laboratory reports and ensure that appropriate and/or required QA/QC steps were followed.
- Enter field and laboratory data to established and verified computer spreadsheets for calculation of volumetric flow rates, mass emission rates or other appropriate results.
- Double-check all lab and field data inputs.
- Perform example calculations by hand using raw data on a single test run for each type of emission result reported.
- Compile summary tables of results and review all table inputs.

This report includes copies of spreadsheet printouts (data input and results output) and example calculation checks. The field data sheets with average data calculations are also included. Standard conditions used for data reduction are 29.92 inches of mercury and 70 °F. All values found to be below the detection limit of the analytical method are reported as "less than" ("<") either the full detection limit value, one-half of the detection limit, or zero based on the applicable method.

5.0 DISCUSSION OF RESULTS

5.1 DETAILED DISCUSSION OF RESULTS

The average results are presented in Table 1-1. The results of the individual visible emissions test runs for each plant are presented in Tables 5-1 and 5-2.

Additional information is included in the appendices. Appendix A presents the quality assurance information, including instrument calibration data. Raw field data sheets are included in Appendix B.

5.2 PROBLEMS/DEVIATIONS/EXCEPTIONS

No problems, deviations or exceptions were reported.

AB&I Foundry
2018 Visible Emissions Evaluation Tests

TABLE 5-1
RESULTS SUMMARY VISIBLE EMISSIONS
AB&I FOUNDRY
DISA 270 POURING LINE

Test No.:	Run 1	Run 2	Run 3
Date:	7/3/18	7/3/18	7/3/18
Time:	0640-0740	0741-0841	0842-0942
Visible Emissions, %:			
Interval 1 (1-6 min)	0.0	0.0	0.0
Interval 2 (7-12 min)	0.0	0.6	0.6
Interval 3 (13-18 min)	0.2	0.0	0.2
Interval 4 (19-24 min)	0.2	0.0	1.3
Interval 5 (25-30 min)	0.0	0.6	0.4
Interval 6 (31-36 min)	0.2	0.4	0.2
Interval 7 (37-42 min)	0.0	0.6	0.4
Interval 8 (43-48 min)	0.8	0.2	0.0
Interval 9 (49-54 min)	0.0	0.0	0.6
Interval 10 (55-60 min)	1.0	0.6	0.0
60-minute Avg.	0.3	0.3	0.4
Highest 6-minute Avg.	1.0	0.6	1.3
3-hour Avg			0.3
Number of intervals > 20%			0
Number of intervals > 20% < 27%			0

AB&I Foundry
2018 Visible Emissions Evaluation Tests

TABLE 5-2
RESULTS SUMMARY VISIBLE EMISSIONS
AB&I FOUNDRY
CUPOLA

Test No.:	Run 1	Run 2	Run 3
Date:	7/3/18	7/3/18	7/3/18
Time:	0949-1049	1050-1150	1151-1251
Visible Emissions, %:			
Interval 1 (1-6 min)	1.0	0.2	0.8
Interval 2 (7-12 min)	0.0	0.0	0.6
Interval 3 (13-18 min)	0.4	0.4	1.5
Interval 4 (19-24 min)	0.4	0.4	1.0
Interval 5 (25-30 min)	0.0	0.0	0.4
Interval 6 (31-36 min)	0.2	0.4	0.4
Interval 7 (37-42 min)	0.0	0.6	1.3
Interval 8 (43-48 min)	1.3	1.9	1.7
Interval 9 (49-54 min)	0.4	0.8	1.9
Interval 10 (55-60 min)	0.4	0.0	1.0
60-minute Avg.	0.4	0.5	1.1
Highest 6-minute Avg.	1.3	1.9	1.9
3-hour Avg			0.7
Number of intervals > 20%			0
Number of intervals > 20% < 27%			0

APPENDIX A

QUALITY ASSURANCE AND QUALITY CONTROL

Appendix A.1 Quality Assurance Program Summary

QUALITY ASSURANCE PROGRAM SUMMARY AND CERTIFICATIONS

Montrose Air Quality Services, LLC (Montrose) ensures the quality and validity of its emission measurement and reporting procedures through a rigorous quality assurance (QA) program. The program is developed and administered by internal QA personnel and encompasses eight major areas:

1. Development and use of an internal QA manual
2. QA reviews of reports, laboratory work, and field testing
3. Equipment calibration and maintenance
4. Chain of custody
5. Continuous training
6. Knowledge of current test methods
7. Agency certification
8. Uncertainty of results

Each of these areas is discussed individually below.

Quality Assurance Manual. Montrose has prepared a QA Manual according to EPA guidelines and ASTM D-7036. The manual serves to document and formalize all of Montrose's QA efforts. The manual is constantly updated, and each employee involved in technical services for emission measurements is required to read, understand its contents, and sign a statement that all work they perform will conform to its practices. The manual includes details on the other seven QA areas discussed below.

QA Reviews. Montrose's review procedure includes review of each source test report by the QA Manager or equivalent position including data input, calculations and averages, and report text. The laboratory manager or equivalent reviews all laboratory work, and the qualified individual on-site reviews all field work and data sheets.

The most important review is the one that takes place before a test program begins. The QA Manager works with testing personnel to prepare and review test protocols. Test protocol review includes selection of appropriate test procedures, evaluation of any interferences or other restrictions that might preclude use of standard test procedures, and evaluation and/or development of alternate procedures.

Equipment Calibration and Maintenance. The equipment used to conduct the emission measurements is maintained according to the manufacturer's instructions to ensure proper operation. In addition to the maintenance program, calibrations are carried out on each measurement device according to the schedule outlined below. The schedules for maintenance and calibrations are given in Tables A-1 and A-2.

Quality control checks are also conducted in the field for each test program. A partial list of checks made as part of each continuous analyzer system test series is included below as an example of the field QA procedures.

- Sample acquisition and conditioning system leak check
- 3-point analyzer calibrations (all analyzers)

- Complete system calibration check ("dynamic calibration" through entire sample system)
- Periodic analyzer calibration checks are conducted at the start and end of each test run. Any change between pre- and post-test readings are recorded.
- All calibrations are conducted using EPA Protocol gases certified by the manufacturer
- Calibration and continuous analyzer performance data are fully documented, and are included in each source test report

Chain of Custody. Montrose maintains full chain of custody documentation on all samples and data sheets. In addition to normal documentation of changes between field sample custodians, laboratory personnel, and field test personnel, Montrose documents every individual who handles any test component in the field (e.g., probe wash, impinger loading and recovery, filter loading and recovery, etc.).

Samples are stored in a locked area to which only laboratory personnel have access. Neither other Montrose employees nor cleaning crews have keys to this area.

Training. Personnel training is essential to ensure quality testing. Montrose has formal and informal training programs which may include some or all of the following:

1. Attendance at EPA-sponsored training courses
2. A requirement for all technicians to read, understand, and sign Montrose's QA Manual
3. In-house training and Montrose meetings on a regular basis
4. Maintenance of training records
5. Administration of internal qualified individual (QI) tests for all methods performed
6. Participation in the Qualified Source Testing Individual (QSTI) program administered by the Source Evaluation Society (SES)

Knowledge of Current Test Methods. With the constant updating of standard test methods and the wide variety of emerging test methods, it is essential that any qualified source tester keep abreast of new developments. Montrose subscribes to services which provide updates on EPA reference methods, and on EPA and local agency rules and regulations. Additionally, source test personnel regularly attend and present papers at testing and emission-related seminars and conferences.

Audit Program. Montrose participates in the TNI Stationary Source Audit Sample (SSAS) audit program for all methods for which audit samples are available.

Uncertainty of Results. Both qualitative and quantitative factors contribute to field measurement uncertainty and should be taken into consideration when interpreting the results contained within this report. Whenever possible, Montrose personnel reduce the impact of these uncertainty factors through the use of approved and validated test methods. In addition, Montrose personnel perform routine instrument and equipment calibrations and ensure that the calibration standards, instruments, and equipment used during test events meet, at a minimum, test method specifications as well as the specifications of our Quality Manual and ASTM D 7036-04.

The limitations of the various methods, instruments, equipment, and materials utilized during this test have been reasonably considered, but the ultimate impact of the cumulative uncertainty of this project is not fully identified within the results of this report.

TABLE A-1
SAMPLING INSTRUMENTS AND
EQUIPMENT CALIBRATION SCHEDULE

Instrument Type	Frequency of Calibration ¹	Standard of Comparison or Method of Calibration	Acceptance Limits
Orifice Meter(large)	12 months	Calibrated dry test meter	± 2% of volume measured
Dry Gas Meter	6 months or when repaired	Calibrated dry test meter	± 2% of volume measured
Critical Orifice	6 months	Calibrated dry test meter	± 0.5% of average K'
S-Type Pitot (for use with EPA-type sampling train)	6 months	EPA Method 2	Geometric measurements within method-specified ranges
Vacuum Gauges	12 months	NIST-traceable gauge	≤ 1.0 in Hg difference
Temperature Measurement (thermocouples)	12 months	NBS mercury thermometer or NBS calibrated platinum RTD	±4 °F for <400 °F ± 1.5% for >400 °F
Temperature Readout Devices	6 months	Thermocouple simulator	± 2% full scale reading
Analytical Balance	12 months (check prior to each use)	NIST-traceable weights	± 0.5 mg of stated weight
Probe Nozzles	12 months	Nozzle diameter check	Range <± 0.10 mm for micrometer three measurements
Continuous Analyzers	Every field day, Depends upon use, frequency and performance	As specified by manufacturers' operating manuals, EPA NBS gases and/or reference methods	Satisfy all limits specified in operating specifications

¹ The tabulated calibration frequencies are minimum standards. In certain instances, calibrations are performed more frequently.

TABLE A-2
EQUIPMENT MAINTENANCE SCHEDULE
Based on Manufacturer's Specifications and Montrose's Experience

Equipment	Performance Requirement	Maintenance Interval ²	Corrective Action
Pumps	1. Absence of leaks 2. Ability to draw manufacturer required vacuum and flow	6 months	1. Visual inspection 2. Clean 3. Replace worn parts 4. Leak check
Flow Measuring Device	1. Free mechanical movement 2. Absence of malfunction	6 months	1. Visual inspection 2. Clean 3. Calibrate
Sampling Instruments	1. Absence of malfunction 2. Proper response to zero, span gas	As required by the manufacturer	As recommended by manufacturer
Mobile Van Sampling Systems	Absence of leaks	Depends on nature of use	1. Change filters 2. Leak check 3. Check for system contamination
Sampling Lines	Sample degradation less than 2%	After each test or test series	Blow filtered air through line until dry

² The tabulated maintenance intervals are minimum standards. In certain instances, maintenance is performed more frequently.

Appendix A.2
ARB Certification and ASTM D-7036 Accreditation

State of California
Air Resources Board
Approved Independent Contractor

Montrose Air Quality Services (MAQS-SNA, Delta, SCEC)

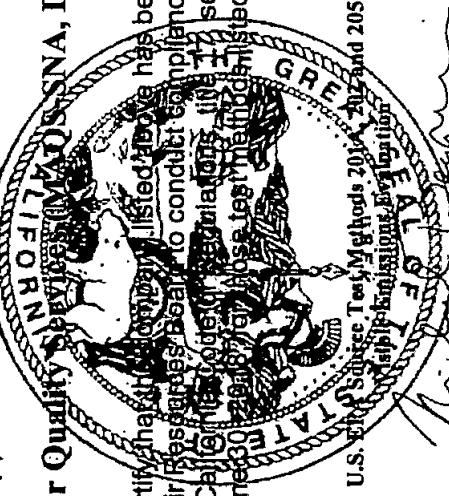
This is to certify that the methods listed above have been approved by the Air Resources Board to conduct compliance testing pursuant to California State regulations, Title 17, section 91207, until June 30, 2017. These test methods are listed below:



Dr. Michael T. Benjamin, Chief
Monitoring and Laboratory Division

State of California
Air Resources Board
Approved Independent Contractor
Montrose Air Quality Services (MAQS) N80417, Delta, SCEC)

This is to certify that the company listed above has been approved by the Air Resources Board to conduct compliance testing pursuant to California State Regulations, Title 17, section 91207, until June 30, 2016, for those test methods listed below:



U.S. EPA Reference Test Methods 2014, 2012 and 205
Multiple Emissions Testing

Dr. Michael T. Benjamin, Chief
Monitoring and Laboratory Division



American Association for Laboratory Accreditation

Accredited Air Emission Testing Body

A2LA has accredited

MONTEREY AIR QUALITY SERVICES

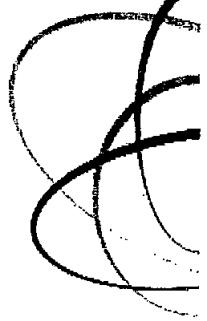
In recognition of the successful completion of the joint A2LA and Stack Testing Accreditation Council (STAC) evaluation process, this laboratory is accredited to perform testing activities in compliance with ASTM D7036:2004 - Standard Practice for Competence of Air Emission Testing Bodies.

Presented this 5th day of March 2018.

A handwritten signature in black ink, appearing to read "John Smith".

President and CEO
For the Accreditation Council
Certificate Number 3925.01
Valid to February 29, 2020

This accreditation program is not included under the A2LA ILAC Mutual Recognition Arrangement.



CALIFORNIA
AIR RESOURCES BOARD

Air Quality Training Program

Awards This Certificate To

Jonathan Stanton

For Completion of

MM106 - Visible Emissions Evaluation: Day Certification

In
Modesto

On
Thursday, February 22, 2018

Certification Expires Six Months From Certification Date.

A handwritten signature in black ink.

Dr. Todd P. Sack, Chief
Enforcement Division

APPENDIX B DATA SHEETS

Appendix B.1 Visible Emissions Data Sheets

VISIBLE EMISSION OBSERVATIONS

Project Information	
Client / Facility	AB&I Foundry
Source / Location	DIFSA 276
Project No.	005AS-443235
Operation Mode/Output Rate	NORMAL
Control Equipment	
Control Eq. Operation Mode	

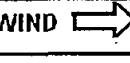
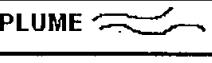
Plume Information	Start	End
Emission Point Description	ROOF OPENING	ROOF OPENING
Height Above Ground	20'	20'
Height Relative to Observer	0'	0'
Distance from Observer	100'	100'
Direction from Observer	N	N
Plume Type: Continuous		
Intermittent		
Fugitive	✓	✓
Plume Color	WHITE	WHITE
Water Droplets Present?	NO	NO
Attached Plume		
Detached Plume	N/A	N/A
Point in the plume at which the opacity was observed	@ ROOF OPENING	@ ROOF OPENING
Description of Background	WALL / ROOF	WALL / ROOF
Color of Background	BROWN	BROWN
Condition of Sky	OVERCAST	OVERCAST
Wind Speed (mph)	0-3	0-3
Wind Direction (From)	W	W
Ambient Temp (°F)	59	60
Relative Humidity (%)	83	83

North Direction 

Emission Point 

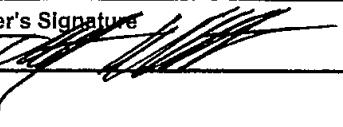
Observer's Position 

140° Sun Location 

KEY: SUN  WIND  PLUME 

Comments:

Observation Record					
Date	7/3/2018	Start	06:40	Stop	07:40
		Seconds			Seconds
Min	0	15	30	45	
40	1	0	0	0	0
40	2	0	0	0	0
40	3	0	0	0	0
40	4	0	0	0	0
40	5	0	0	0	0
45	6	0	0	0	0
45	7	0	0	0	0
45	8	0	0	0	0
45	9	0	0	0	0
45	10	0	0	0	0
50	11	0	0	0	0
50	12	0	0	0	0
50	13	0	0	0	0
50	14	0	0	5	0
50	15	0	0	0	0
55	16	0	0	0	0
55	17	0	0	0	0
55	18	0	0	0	0
55	19	0	0	0	0
55	20	0	0	0	0
00	21	0	0	0	0
00	22	0	0	0	0
00	23	5	0	0	0
00	24	0	0	0	0
00	25	0	0	0	0
05	26	0	0	0	0
05	27	0	0	0	0
05	28	0	0	0	0
05	29	0	0	0	0
05	30	0	0	0	0
Range of Opacity Readings					
Maximum %					
Minimum %					
Number of readings above % =					
Average Opacity for readings = %					

Observer's Name (print)
Jonathan Stanton
Organization
Montrose Air Quality Services, LLC
Certified By CARB
Certification Date 2/22/2018 Expiration Date 8/22/2018
Observer's Signature 

VISIBLE EMISSION OBSERVATIONS

Project Information

Client / Facility	AB&I Foundry
Source / Location	DIAA 270
Project No.	005AS-443235
Operation Mode/Output Rate	NORMAL
Control Equipment	
Control Eq. Operation Mode	

Plume Information	Start	End
Emission Point Description	ROOF OPENING	ROOF OPENING
Height Above Ground	20'	20'
Height Relative to Observer	0'	0'
Distance from Observer	100'	100'
Direction from Observer	N	N
Plume Type: Continuous		
Intermittent		
Fugitive	✓	✓
Plume Color	WHITE	WHITE
Water Droplets Present?	NO	NO
Attached Plume		
Detached Plume	N/A	N/A
Point in the plume at which the opacity was observed	AT ROOF OPENING	AT ROOF OPENING
Description of Background	WALL	WALL
Color of Background	BROWN	BROWN
Condition of Sky	OVERCAST	OVERCAST
Wind Speed (mph)	0-3	0-3
Wind Direction (From)	W	W
Ambient Temp (°F)	59	61
Relative Humidity (%)	83	78

North Direction


■ Emission Point

○ Observer's Position
 140° Sun Location

KEY: SUN WIND PLUME

Comments:

Observation Record

Date 7/3/2018 Start 07:41 Stop 08:41

Seconds					Seconds				
Min	0	15	30	45	Min	0	15	30	45
41	1	0	0	0	11	31	0	0	0
2	6	0	0	0	32	0	0	0	0
3	0	0	0	0	33	0	0	0	0
4	0	0	0	0	34	0	0	0	0
5	0	0	0	0	35	0	0	0	0
6	0	0	0	0	36	0	6	5	5
7	0	0	0	0	37	5	5	5	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	5	5	5	0	41	0	0	0	0
12	0	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	5	0	0
15	0	0	0	0	45	0	0	0	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	0	0	0	48	0	0	0	0
19	0	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	51	0	0	0	0
22	0	0	0	0	52	0	0	0	0
23	0	0	0	0	53	0	0	0	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	0	5	5	5
28	0	0	5	5	58	0	0	0	0
29	5	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Range of Opacity Readings	Maximum	%
	Minimum	%
Number of readings above	% =	
Average Opacity for	readings =	%

Observer's Name (print)

Jonathan Stanton

Organization

Montrose Air Quality Services, LLC

Certified By CARB

Certification Date 2/22/2018 Expiration Date 8/22/2018

Observer's Signature

VISIBLE EMISSION OBSERVATIONS

Project Information.

Client / Facility	AB&I Foundry
Source / Location	DISA 270
Project No.	005AS-443235
Operation Mode/Output Rate	NORMAL
Control Equipment	
Control Eq. Operation Mode	

Plume Information	Start	End
Emission Point Description	ROOF OPENING	ROOF OPENING
Height Above Ground	20'	20'
Height Relative to Observer	0'	0'
Distance from Observer	100'	100'
Direction from Observer	N	N
Plume Type: Continuous		
Intermittent		
Fugitive	✓	✓
Plume Color	WHITE/GREY	WHITE/GREY
Water Droplets Present?	NO	NO
Attached Plume		
Detached Plume	N/A	N/A
Point in the plume at which the opacity was observed	AT ROOF OPENING	AT ROOF OPENING
Description of Background	WALL	WALL
Color of Background	BROWN	BROWN
Condition of Sky	OVERCAST	SCATTERED
Wind Speed (mph)	0-3	0-3
Wind Direction (From)	W	W
Ambient Temp (°F)	61	63
Relative Humidity (%)	78	75

North Direction



Emission Point



Observer's Position



KEY: SUN ☀ WIND ➔ PLUME ↗

Comments:

Observation Record

Date 7/3/2018 Start 08:42 Stop 09:42

	Seconds		Seconds	
Min	0 15 30 45	Min	0 15 30 45	
42	1 0 0 0	1231	0 0 0 0	
	2 0 0 0	32	0 0 0 0	
	3 0 0 0	33	0 0 0 0	
	4 0 0 0	34	0 0 0 0	
	5 0 0 0	35	0 0 0 0	
	6 0 0 0	36	0 0 5 0	
	7 0 0 0	37	0 0 0 0	
	8 0 0 0	38	0 0 0 0	
	9 0 0 0	39	0 0 0 0	
	10 0 0 0	40	0 0 0 0	
	5211	0 0 0 0	2241	0 0 0 0
	12 5 0 5	42	5 5 0 0	
	13 0 5 0	43	0 0 0 0	
	14 0 0 0	44	0 0 0 0	
	15 0 0 0	45	0 0 0 0	
	16 0 0 0	46	0 0 0 0	
	17 0 0 0	47	0 0 0 0	
	18 0 0 0	48	0 0 0 0	
	19 0 0 0	49	0 0 0 0	
	20 0 0 0	50	0 0 0 0	
	6221	0 5 10 0	3251	0 0 0 0
	22 5 5 0	52	5 0 0 0	
	23 0 0 0	53	0 5 5 0	
	24 0 0 0	54	0 0 0 0	
	25 0 0 0	55	0 0 0 0	
	26 0 0 0	56	0 0 0 0	
	27 5 5 0	57	0 0 0 0	
	28 0 0 0	58	0 0 0 0	
	29 0 0 0	59	0 0 0 0	
	30 0 0 0	60	0 0 0 0	

 Range of Opacity Readings Maximum %
 Minimum %

Number of readings above % =

Average Opacity for readings = %

Observer's Name (print)

Jonathan Stanton

Organization

Montrose Air Quality Services, LLC

Certified By CARB

Certification Date 2/22/2018 Expiration Date 8/22/2018

Observer's Signature

VISIBLE EMISSION OBSERVATIONS

Project Information

Client / Facility	AB&I Foundry
Source / Location	CUPOLA
Project No.	005AS-443235
Operation Mode/Output Rate	NORMAL
Control Equipment	
Control Eq. Operation Mode	

Plume Information	Start	End
Emission Point Description	FURNACE DOOR	FURNACE DOOR
Height Above Ground	40'	40'
Height Relative to Observer	10'	10'
Distance from Observer	130'	130'
Direction from Observer	NE	NE
Plume Type: Continuous		
Intermittent		
Fugitive	✓	✓
Plume Color	WHITE	WHITE
Water Droplets Present?	NO	NO
Attached Plume		
Detached Plume	N/A	N/A
Point in the plume at which the opacity was observed	AT CUPOLA DUMP POINT	AT CUPOLA DUMP POINT
Description of Background	METAL FRAMING	METAL FRAMING
Color of Background	BROWN	BROWN
Condition of Sky	SCATTERED	CLEAR
Wind Speed (mph)	0-3	0
Wind Direction (From)	W	N/A
Ambient Temp (°F)	63	66
Relative Humidity (%)	75	65

North Direction


■ Emission Point

KEY: SUN WIND PLUME

Comments:

Observation Record

Date 7/3/2018 Start 09:44 Stop 10:49

	Seconds			Seconds					
Min	0	15	30	45	Min	0	15	30	45
49	1	0	0	0	19	31	0	0	0
2	0	0	0	0	32	4	0	0	0
3	0	5	10	0	33	0	5	10	0
4	0	0	0	0	34	4	0	5	0
5	0	0	0	0	35	5	0	0	0
6	5	5	0	0	36	0	0	0	0
7	0	0	0	0	37	0	0	0	0
8	0	0	0	0	38	0	0	0	0
9	0	0	0	0	39	0	0	0	0
10	0	0	0	0	40	0	0	0	0
11	0	0	0	0	29	41	0	0	0
12	6	0	0	0	42	0	0	0	0
13	0	0	0	0	43	0	0	0	0
14	0	0	0	0	44	0	0	0	10
15	0	0	0	0	45	5	10	5	0
16	0	0	0	0	46	0	0	0	0
17	0	0	0	0	47	0	0	0	0
18	0	5	5	0	48	0	0	0	0
19	5	0	0	0	49	0	0	0	0
20	0	0	0	0	50	0	0	0	0
21	0	0	0	0	39	51	0	0	0
22	0	0	0	0	52	0	0	0	0
23	5	0	0	0	53	0	5	5	0
24	0	0	0	0	54	0	0	0	0
25	0	0	0	0	55	0	0	0	0
26	0	0	0	0	56	0	0	0	0
27	0	0	0	0	57	5	0	0	0
28	0	0	0	0	58	0	0	0	0
29	0	0	0	0	59	0	0	0	0
30	0	0	0	0	60	0	0	0	0

Range of Opacity Readings	Maximum	%
	Minimum	%
Number of readings above	% =	
Average Opacity for	readings =	%

Observer's Name (print)			
Jonathan Stanton			
Organization	Montrose Air Quality Services, LLC		
Certified By	CARB		
Certification Date	2/22/2018	Expiration Date	8/22/2018
Observer's Signature			

VISIBLE EMISSION OBSERVATIONS

Project Information

Client / Facility	AB&I Foundry
Source / Location	CUPOLA
Project No.	005AS-443235
Operation Mode/Output Rate	NORMAL
Control Equipment	
Control Eq. Operation Mode	

Plume Information

	Start	End
Emission Point Description	FURNACE DOOR	FURNACE DOOR
Height Above Ground	10'	40'
Height Relative to Observer	10'	10'
Distance from Observer	130'	130'
Direction from Observer	NE	NE
Plume Type: Continuous		
Intermittent		
Fugitive	✓	✓
Plume Color	LIGHT	WHITE
Water Droplets Present?	NO	NO
Attached Plume		
Detached Plume	N/A	N/A
Point in the plume at which the opacity was observed	AT CUPOLA DUMP POINT	AT CUPOLA DUMP POINT
Description of Background	METAL FRAMING	METAL FRAMING
Color of Background	BROWN	BROWN
Condition of Sky	CLEAR	CLEAR
Wind Speed (mph)	0	0-3
Wind Direction (From)	N/A	W
Ambient Temp (°F)	66	68
Relative Humidity (%)	65	63

North Direction



Emission Point



Observer's Position

140°
0°
Sun Location

KEY: SUN WIND PLUME

Comments:

Observation Record

Date 7/3/2018 Start 10:50 Stop 11:50

Seconds

Min 0 15 30 45

50	1	0	5	0	0
55	6	0	0	0	0
60	11	0	0	0	0
65	0	0	0	0	0
70	0	0	0	0	0
75	0	0	0	0	0
80	0	0	0	0	0
85	0	0	0	0	0
90	0	0	0	0	0
95	0	0	0	0	0
100	0	0	0	0	0
105	0	0	0	0	0
110	0	0	0	0	0
115	0	0	0	0	0
120	0	0	0	0	0
125	0	0	5	0	0
130	0	0	0	0	0
135	0	0	0	0	0
140	0	0	0	0	0
145	0	0	0	0	0
150	0	0	0	0	0
155	0	0	0	0	0
160	0	0	0	0	0
165	0	0	0	0	0
170	0	0	0	0	0
175	0	0	0	0	0
180	0	0	0	0	0
185	0	0	0	0	0
190	0	0	5	0	0
195	0	0	0	0	0
200	0	0	0	0	0
205	0	0	0	0	0
210	0	0	0	0	0
215	0	0	0	0	0
220	0	0	0	0	0
225	0	0	0	0	0
230	0	0	0	0	0
235	0	0	0	0	0
240	0	0	0	0	0
245	0	0	0	0	0
250	0	0	0	0	0
255	0	0	0	0	0
260	0	0	0	0	0
265	0	0	0	0	0
270	0	0	0	0	0
275	0	0	0	0	0
280	0	0	0	0	0
285	0	0	0	0	0
290	0	0	0	0	0
295	0	0	0	0	0
300	0	0	0	0	0

Seconds

2031	0	0	0	0	0
32	0	0	0	0	0
33	0	5	0	0	0
34	5	0	0	0	0
35	0	0	0	0	0
36	0	0	0	0	0
37	0	0	0	0	0
38	0	0	0	0	0
39	0	0	0	0	0
40	0	0	0	0	0
3041	6	10	0	0	0
42	0	0	5	0	0
43	15	5	0	0	0
44	0	0	5	0	0
45	5	0	0	10	0
46	0	5	0	0	0
47	0	0	0	0	0
48	0	0	0	0	0
49	0	5	5	0	0
50	0	5	0	0	0
4051	5	0	0	0	0
52	0	0	0	0	0
53	0	0	0	0	0
54	0	0	0	0	0
55	0	0	0	0	0
56	0	0	0	0	0
57	0	0	0	0	0
58	0	0	0	0	0
59	0	0	0	0	0
60	0	0	0	0	0

Range of Opacity Readings Maximum %

Minimum %

Number of readings above % =

Average Opacity for readings = %

Comments:

Observer's Name (print)

Jonathan Stanton

Organization

Montrose Air Quality Services, LLC

Certified By CARB

Certification Date 2/22/2018 Expiration Date 8/22/2018

Observer's Signature

VISIBLE EMISSION OBSERVATIONS

Project Information

Client / Facility	AB&I Foundry
Source / Location	CUPOLA
Project No.	005AS-443235
Operation Mode/Output Rate	NORMAL
Control Equipment	
Control Eq. Operation Mode	

Plume Information

	Start	End
Emission Point Description	FURNACE DOOR	FURNACE DOOR
Height Above Ground	40'	40'
Height Relative to Observer	10'	10'
Distance from Observer	130'	130'
Direction from Observer	NE	NE
Plume Type: Continuous		
Intermittent		
Fugitive	✓	✓
Plume Color	WHITE	WHITE
Water Droplets Present?	NO	NO
Attached Plume		
Detached Plume	N/A	N/A
Point in the plume at which the opacity was observed	AT CUPOLA DUMP POINT	AT CUPOLA DUMP POINT
Description of Background	METAL FRAMING	METAL FRAMING
Color of Background	BROWN	BROWN
Condition of Sky	CLEAR	CLEAR
Wind Speed (mph)	0-3	0
Wind Direction (From)	W	N/A
Ambient Temp (°F)	68	72
Relative Humidity (%)	63	54

North Direction


 Emission Point

KEY: SUN WIND PLUME

Comments:

Observation Record

Date 7/3/2018 Start 17:51 Step 12:51

Seconds

Min	0	15	30	45
51	0	0	0	0
52	0	0	0	0
53	0	0	0	0
54	0	0	0	0
55	0	0	0	0
56	0	0	0	0
57	0	0	0	0
58	0	0	0	0
59	0	0	0	0
60	0	0	0	0

Seconds

Min	0	15	30	45
21	0	0	0	0
32	0	5	0	0
33	0	0	0	0
34	0	0	0	0
35	5	0	0	0
36	0	0	0	0
37	0	0	0	0
38	0	5	10	5
39	5	0	0	0
40	0	0	0	0
31	0	0	0	0
42	0	5	0	0
43	0	0	0	0
44	0	0	0	0
45	0	0	0	0
46	0	0	0	5
47	10	5	10	0
48	0	5	5	0
49	0	0	0	0
50	0	15	15	5
41	10	5	0	0
52	0	0	0	0
53	0	0	0	0
54	0	0	0	5
55	5	0	0	5
56	0	0	10	5
57	0	0	0	0
58	0	0	0	0
59	0	0	0	0
60	0	0	0	0

Range of Opacity Readings	Maximum	%
	Minimum	%
Number of readings above	% =	
Average Opacity for	readings =	%

Observer's Name (print)

Jonathan Stanton

Organization

Montrose Air Quality Services, LLC

Certified By CARB

Certification Date 2/22/2018 Expiration Date 8/22/2018

Observer's Signature

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If you have any questions, please contact one of the following individuals by email or phone.

Name: Mr. Jonthan Stanton
Title: Field Project Manager
Region: Northwest Region
Email: jstanton@montrose-env.com
Phone: (619) 994-7874

Name: Mr. Todd Smith
Title: District Manager
Region: Northwest Region
Email: tsmith@montrose-env.com
Phone: (925) 381-3297

UPS CampusShip: View/Print Label

1. Ensure there are no other shipping or tracking labels attached to your package. Select the Print button on the print dialog box that appears. Note: If your browser does not support this function select Print from the File menu to print the label.
2. Fold the printed label at the solid line below. Place the label in a UPS Shipping Pouch. If you do not have a pouch, affix the folded label using clear plastic shipping tape over the entire label.
3. **GETTING YOUR SHIPMENT TO UPS**
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Your driver will pickup your shipment(s) as usual.

Customers without a Daily Pickup

Take your package to any location of The UPS Store®, UPS Access Point™ location, UPS Drop Box, UPS Customer Center, Staples® or Authorized Shipping Outlet near you. Items sent via UPS Return Services(SM) (including via Ground) are also accepted at Drop Boxes. To find the location nearest you, please visit the Resources area of CampusShip and select UPS Locations.

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